THE AMERICAN SCHOLAR

Vol. 12 *Winter* · 1942-43 *No.* 1

Editorial *Ruth F. Benedict*
Galileo: a New Science and a New Spirit *Ernst Cassirer*
Anglo-American Misunderstanding *Harold Nicolson*
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In the Workshop

Geography for War and for Peace *John K. Wright*

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THE AMERICAN SCHOLAR

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Editorial

The two leading articles in this issue of THE AMERICAN SCHOLAR are written out of a great concern for the smooth functioning of the postwar world. They take opposite sides, however, on whether there will be more and bigger wars if the common man comes to have greater weight in international affairs. Harold Nicolson views with alarm; Albert Viton argues that all hope of eliminating war depends upon it. Mr. Nicolson bases his distrust specifically upon his experience of the American common people's dislike of Englishmen as contrasted with the well known gentlemanly understanding between diplomats and treaty makers of Great Britain and the United States. Mr. Viton does not share Mr. Nicolson's confidence and advocates a much greater democratization of foreign affairs because he is convinced that the common man in Western Civilization will pay any price to eliminate war.

If we believe that wars can be eliminated by gentlemanly understanding between "the people at the top" (it is Mr. Nicolson's phrase) in all the foreign offices of the world we shall agree with Mr. Nicolson. If we believe that the common man will accurately judge ahead of time what will produce wars and what will not produce wars, we shall agree with Mr. Viton. But, whichever one we agree with, we shall still have to go back, as if neither of them had spoken, to the main question: How to prevent war. For in the face of recent history Mr. Nicolson cannot hold out any hopes that the mere device of retaining State Departments and Foreign Offices as at present constituted will be adequate to prevent wars. And Mr. Viton does not tell us what techniques the common man can trust if he is indeed willing to go all-out to ensure a warless world.

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What social arrangements do prevent war? This is the issue we cannot avoid. Because I am an anthropologist I cannot help thinking of simple primitive tribes who eliminated war. They neither thought it necessary to like all the men and women of another tribe nor trusted the common man to be peaceable. In South America, east of the Andes, tribes were fairly small and they were not peaceable. The tribes which got along without continual warfare had one simple rule governing intertribal dealings: they parked their weapons at the door. The women took charge of them. If the men began fighting over their festive beer they had only their fists as weapons, and wrestlers could be separated. It was a simple rule and it did not expect the impossible. But it worked. It changed intertribal relations. For it stopped the massacres occurring in those tribes which drank with their weapons beside them and it stopped the vengeance parties stalking the forest afterwards — an endless vicious reciprocity of recrimination.

Parking the deadly weapons is not the only simple rule preventing war among savages, of course, but it is elementary. Under modern conditions it means disarmament. It means, as H. G. Wells said in 1938, that we should recognize that any nation's manufacture of anything larger than a police pistol is a matter of international concern. Do we want to put any such simple rule into effect? If we do we can take quite calmly — though we will still deplore it — Mr. Nicolson's experience that one people may not like some other people very well; and we can be calm too, even though we doubt the irreversible determination of the common man never to fight another war. For if our object is to lessen the likelihood of war we must do the simple things which make war out of the question. Disarmament is one of these. We must park our arms where even the common man cannot get hold of them for his own nation's private aggrandizement and where even the gentlemanly diplomats cannot be tempted to settle their differences by destroying some neighbor. The unified commands and administrations which the United Nations are at this moment experimenting with must be reinforced and extended in an international army and in international policy-making, because we have come to recognize in peace as we do in war that fighting in Burma or in Bengazi is the concern of the whole interdependent world.

Are we willing to do it? After we have attended to these elementary *a b c's* we shall find it more possible to achieve both the mutual understanding Mr. Nicolson desires and the world prosperity Mr. Viton envisages. But we shall be the more deceived if we fail to lay down the elementary rules.

RUTH BENEDICT

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Galileo: a New Science and a New Spirit

ERNST CASSIRER

THREE hundred years ago last January Galileo Galilei died—a date of supreme significance not only in the history of physics as a special science but also in the history of human civilization. Had Galileo died as a child the evolution of modern thought would have been retarded for decades and would almost certainly have differed in many fundamental aspects.

He was one of those great and rare geniuses whose work is not restricted to any special field of investigation. We not only may, we must, think of his work from a general philosophical point of view and in the perspective of the history of modern philosophy. For even in the field of philosophy Galileo's thought proved revolutionary. In his last work, *Discorsi e Dimostrazioni matematiche interno due nuove Scienze* (Conversations and Mathematical Demonstations), Galilei not only set forth new and fundamental physical facts; he introduced and firmly established a new general method of scientific thought, a method of empirical observation and mathematical deduction. To understand this method and to interpret it in its true sense became one of the principal tasks of modern philosophy. Thenceforth no philosophical school, no individual thinker, could avoid the problems first posed clearly by Galilei. The empirical and the rationalistic schools of modern philosophy are likewise under the influence and, so to speak, under the spell of Galilei's work. We can trace his thought in the works of Spinoza and Leibniz, of Gassendi and Hobbes. And when, in his *Critique of Pure Reason*, Kant tried to appraise

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the consequences of empiricism and rationalism he was obliged to go back to the source of this development. In the Preface to the second edition of the *Critique* he says:

> When Galilei let balls of a particular weight, which he had determined himself, roll down an inclined plane . . . a new light flashed on all students of nature. They comprehended that reason has insight into that only which she herself produces on her own plan, and that she must move forward with the principles of her judgments, according to fixed law, and compel nature to answer her questions. . . . Reason holding in one hand its principles . . . and in the other hand the experiment, which it has devised according to those principles, must approach nature in order to be taught by it: but not in the character of a pupil who agrees to everything the master likes but as an appointed judge who compels the witnesses to answer the questions which he himself proposes. . . . Thus only has the study of nature entered on the secure method of a science, after having for many centuries done nothing but grope in the dark.[2]

I wish here to emphasize the methodological purport of Galileo's scientific work. Galileo's fame as a scientist depends on his discovery and his experimental proof of the fundamental laws of dynamics and on his defense of the Copernican system. His trial and condemnation linked his name once and for all time with the history of that system. But this is not the question that most strikes us if nowadays we read and study Galileo's work, for in the three hundred years since his death our scientific and philosophical interest has shifted. Many of the arguments whereby Galilei endeavored to support the Copernican theory have become obsolete. The decisive element in Galileo's work was not the defense of a special physical or astronomical doctrine (however important this doctrine may be) but the defense of a new concept, of a new systematic ideal of truth. In a famous letter written in the year 1613 to one of his pupils, Benedetto Castelli, at that time a professor of mathematics in the University of Pisa, Galilei formulated the new ideal with admirable brevity and clarity.

[2]Emmanuel Kant, *Critique of Pure Reason*, Preface to 2d Edition. Translated by F. Max Müller. London, Macmillan and Co., 1881, Vol. I, p. 368.

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The letter was to play an important role in Galileo's trial, for it became one of the principal grounds of his condemnation. But we find in it not only the assumption of a special astronomical hypothesis. The letter is much more; it is a new philosophy of science, a new appreciation of the task and the value of scientific thought. In this respect the letter is a radical revaluation of all values. There is no human or divine authority, declared Galilei, that may be placed above the authority of experiment and mathematical deduction. In the field of physics the principle of verbal inspiration—a principle that had theretofore been the guiding maxim of theology and consequently of medieval science—is to be rejected utterly. If ever there should arise an insoluble contradiction between something ascertained by empirical observation and something taught by the Holy Scripture there can be no doubt as to the side on which the scale of the balance of truth must decline. There is a double revelation of God, said Galilei—the one contained in His word, the other contained in His work, the one to be found in the Bible and the other to be found in nature and its general laws. But in case of doubt the latter revelation must always prevail over the former. For words are destined for human purposes. They are the most important, nay the unique, means of all communcation between men. But if there is any communication between God and men it cannot be based upon so uncertain a ground as words. Words are ambiguous by their very nature and essence. To be understood they must be interpreted—and this interpretation must always remain doubtful and insecure. But as soon as we turn to the second source of divine revelation, to God's revelation in nature, this uncertainty ceases. Out of the mutual support of observable facts and demonstrable mathematical propositions there arises an image of reality that possesses a unique and necessary truth. Why should we therefore, concluded Galileo, in striving to know the universe and its parts begin with the word of God instead of with His work— or is perhaps the work less noble and excellent than the word? Whatever knowledge may be given us in the form of true experience

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or whatever may be taught by conclusive demonstrations can never be questioned by any argument taken from Biblical texts, for not every word of the Scripture is governed by such rigid laws as every effect in nature.

But this conception of the relation between God and nature immediately led to a new result, and one that from the point of view of medieval thought must have been not merely astonishing but scandalous. If mathematics is the bridge between human and Divine thought it follows that there can be no insurmountable gulf between these two forms of thought, no radical difference between our own finite mind and the Divine intellect. Galilei drew this inference in a famous passage in his *Dialogues*.

If we compare God and man, he says, with regard to the extent of their knowledge it is clear that human science is to be set at naught. For even if man knew many thousands of true propositions their sum would be as nothing when compared with the infinity of possible knowledge. But if we understand knowledge in a qualitative or, as Galilei said, in an intensive sense, if instead of its extent we take into account its intrinsic worth and its logical perfection, the problem suddenly changes. We then find that our human intellect conceives some truths so perfectly that it can gain such absolute evidence of them as exists in nature. Of this sort are all mathematical truths—the verities of arithmetic and geometry. Obviously, pointed out Galilei, the Divine intellect knows and conceives an infinitely greater number of mathematical truths than we do; for it knows and comprehends them in their totality. But with regard to objective certainty, the few verities known by the human mind are known as perfectly by man as they are by God. The verities of mathematics are necessary and eternal truths—and we cannot imagine any degree of perfection capable of surpassing this mathematical evidence.

This passage, from our modern point of view harmless and innocent, gave the greatest offense to Galileo's ecclesiastical judges. And if the passage is measured by the traditional

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standards of the Church his judges were undoubtedly right, for implicitly it denies one of the keystones of the edifice of medieval thought. In the medieval system there was always an insurmountable boundary separating two different realms of truth. There was an immanent and a transcendent truth, a human and a Divine truth, a truth of reason and a truth of revelation. But Galilei ventured in his *Dialogues* to deny and to demolish this distinction. As soon as we have reached the real truth, the truth of mathematics, he asserted, this artificial fence breaks down. Mathematics is indivisible. There is no immanent or transcendent, no human or Divine, mathematics. And the same holds good in the field of natural science. Urban VIII, the Pope under whose pontificate Galilei was accused and condemned, had been while he was a cardinal one of Galilei's protectors. To a certain extent he had even acknowledged the Copernican theory to be an admissible astronomical hypothesis. But in a personal conversation with Galilei he had objected that even if all observations and experiments and all mathematical reasoning supported Copernicus' theory, it would not follow that Galilei's doctrine must be true. For the omnipotence of God is not contingent on the rules and principles of human reason. God was, therefore, perfectly free to create the world according to laws entirely divergent from those which human science can discover and human reason comprehend. But Galilei could not accept this view. He knew and acknowledged no possible contradiction between the will of God on the one hand and the rules of logic, the axioms of mathematics, the facts of physics on the other. If these rules, these axioms, these facts are to be regarded as an immediate manifestation of God Himself we cannot restrict their objective truth. Where reason speaks, there speaks God—and He cannot contradict Himself.

By this general philosophical and scientific conviction Galilei had cut himself off from every possible retreat in his conflict with the Church. Conflicts between reason and faith, between free and authoritative thought had continually arisen throughout the Middle Ages and during the early Renaissance the

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latent crisis became more and more manifest. But in most of these cases there had always been an ultimate personal refuge. Nearly all who had doubted or contested a fundamental and dogmatic proposition concluded with the protestation that they by no means intended to call the revealed truth into question. Their doubts could prove only one thing: that there is a double truth, one for God and one for men, one accessible to our reason and one far above and beyond it. In the philosophical schools of Italy the doctrine of a double truth had been carefully elaborated and developed into a special technique of thought. But this compromise was not open to Galilei, for he insisted with the greatest vigor that if there is any truth this truth must be one and indivisible. The truth is necessity; and necessity admits of no degrees.

But Galilei had still another dualism to overcome before he could found a science of nature. Plato had based his philosophy upon the presupposition that we cannot speak of a science of nature in the same sense as we can of a science of mathematics. For him mathematics was directed to the ideal world, the world of eternal and unchanging things; whereas physics, confined within the limits of natural phenomena, which have no real being, could never discover the permanent. It was most difficult for Galilei to combat the authority of Plato. He fervently admired Plato. In many respects he felt himself a true disciple of the Greek philosopher and often quoted characteristic and important passages from the Platonic dialogues. But he was convinced that in his own work, in the new science of dynamics, he had removed the barrier Plato had erected between mathematical and natural science; for this new science proved nature itself a realm of necessity rather than of chance. Nature is governed by universal and inviolable laws. Nature, affirmed Galileo, is no mystery to the human mind. It is an open book accessible and legible to everyone. But to read this book we must first of all know the letters in which it is written. And it is written not in ordinary sense perceptions but in mathematical symbols: in triangles, circles and other geometrical

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figures. If we so understand nature then geometrical and physical knowledge become equivalent in their logical value. Motion ceased to be a mere changing and flowing phenomenon; for Galilei it became an idea, a pure form belonging just as surely to a realm of eternal truth as do our ideas of number or of geometrical space.

The most striking characteristic of Galilei's approach was his great simplicity of method. The words "*Simplex sigillum veri*," simplicity is the seal of truth, are applicable to his first questions and experiments. He began with the investigation of a single and obvious phenomenon—the fall of heavy bodies —something that had been observed innumerable times. But the conclusions he drew from this simple phenomenon gradually led him to an all-embracing and comprehensive view of the physical world that changed man's entire concept of nature. In his *Mécanique Analytique* Lagrange, a great physicist of the 18th century who rounded out and completed the work of Galilei, commented:

> For the discovery of the satellites of Jupiter, of the phases of Venus, of the sunspots and so on, nothing but telescopes and assiduity were required. But it called for an extraordinary genius to detect the laws of nature in such phenomena as, in all times, had been evident, but the explanation of which had always escaped philosophical thought.

The really revolutionary element in Galilei's work consisted not only of the way in which he answered the question but of the way in which he put the question. And to achieve the new approach he had to free himself from a philosophical and scientific tradition that had for centuries determined man's concept of the shape of the cosmic system.

At first sight Aristotle's physics seems to be in full agreement with the modern view of the universe. Aristotle defined a physical or natural object as something having within itself a principle of motion and rest in respect of place, size or quality. Motion is therefore just as certainly the fundamental fact in Aristotle's physics as it is the focus of Galilei's thought and of

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his physical theories. But there is a decisive difference in the "reasons" of motion as understood by Galilei and by Aristotle and his medieval followers. According to Aristotle we must seek these reasons in the essence and nature of things, in their "substantial forms." Every particular substance has a motion of its own corresponding to its peculiar nature, to its ontological character. Fire, water, air, earth are endowed with special inner tendencies and these tendencies determine the form of their motion: fire always strives upward to the heavens, earth always strives downward to the center of the universe. And beyond the sphere of the elementary movements—of the movements of water and air, of fire and earth—there is still another sphere composed of quite a different substance and therefore irreducible to the same general rules. Whereas all earthly elements move in straight lines—a movement that after a certain time must necessarily come to a standstill—the motion of celestial bodies is eternal because their substance is eternal and indestructible. The substance of the heavens is incorruptible whereas the substance of our elements, of the world below the moon, is liable to change and decay.

The same view prevailed in all the great systems of medieval thought insofar as they dealt with the fundamental problems of natural philosophy. Thomas Aquinas expressly declared that we must not think of the substance of the celestial spheres as anything analogous to the stuff of our earthly bodies. Between earthly and heavenly matter there is a verbal rather than a real community. Galilei's theory of dynamics destroyed this concept of a radical heterogeneity of matter—in the same sense in which his philosophy destroyed the assumption of a radical heterogeneity of truth. From his observations of falling bodies Galilei had learned that all heavy bodies fall in accordance with identical laws and with equal velocities, regardless of their mass or their chemical composition. Nature, concluded Galilei, is uniform; it always acts in the same way. For Galilei the homogeneity of matter was a simple corollary of his belief in the universality of the laws of nature.

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But to reach this goal, to conceive of nature as a system governed by universal and inviolable laws, modern thought had to take another step. Man had to renounce his teleological interpretation of nature; he had to view categories of ends and means as merely human categories restricted to a special and limited field and losing their usefulness and validity as soon as men strive for a universal explanation of cosmic phenomena. Here we grasp the real significance of Galilei's defense of the Copernican system. He could not desist; nor could he compromise without sacrificing the unity and the fundamental character of his thought. He adopted the Copernican system not merely as an astronomical hypothesis but as an emancipation from the narrow anthropocentrism and anthropomorphism that had theretofore impeded all investigation of natural phenomena. This concept of finality—that the processes of nature are directed toward an end or shaped by a purpose—pervaded both Aristotelian and medieval physics and metaphysics. Finality is both the reason for being of all things and the reason for all of our knowledge. From the human point of view this concept, fulfilling not only our intellectual but also our ethical and aesthetic demands, was natural and satisfactory. But modern science had to relinquish the principle of finality for an entirely new system of categories. Instead of being based on the concept of means and ends, modern science depends on the concept of space and time, number, quantity and measure.

It was a long time, however, before Aristotelian teleology was superseded by the modern mathematical view. In the science and philosophy of the Renaissance we can follow, step by step, the slow development from the one to the other. Kepler went back to the Pythagorean conception of the universe. He strove to explain nature on the basis of number and harmony: God, he reiterated, is always counting and reckoning. Despite this insistence Kepler had no wish to sacrifice the Aristotelian scheme of thought. Neither the three laws formulated by Kepler nor the new cosmology inherent in the work of Copernicus, however important and decisive they both proved to be for

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the future development of scientific thought, were in themselves strong enough to break the power of the Aristotelian system of physics. Even while rejecting particular ideas and particular doctrines of Aristotelian physics, Copernicus and Kepler continued to argue and reason within the framework of his metaphysics and ontology. To convince men of the truth of the heliocentric system Copernicus reasoned teleologically. He argued that it is most natural to ascribe the noblest place, the place in the center of the world, to the noblest celestial body, the sun. And in Kepler's *Harmonia Mundi* we find, over and over again, the same mode of thinking. In Kepler's mind mathematical thought and aesthetic speculation interpenetrated each other; they were inseparable. Galilei was the first to make such a separation. He did not deny that metaphysical or teleological explanations of the phenomena of nature are possible. But he conceived his own task, the task of natural philosophy, as having a different function. Alluding to some general cosmological speculations from Kepler's *Mysterium Cosmographicum* Galilei remarked:

> But profound considerations of this kind belong to a higher science than ours. We must be satisfied to belong to that class of less worthy workmen who procure from the quarry the marble out of which later the gifted sculptor produces those masterpieces which lay hidden in this rough and shapeless exterior.[3]

We cannot, therefore, attain full insight into the nature and value of Galileo's science if we content ourselves with characterizing it according to the standards we customarily use in describing a philosophical system. It is commonly thought that in analyzing modern philosophy one should draw a clear line of demarcation between the rationalistic and the empiricist theory of knowledge. But if we follow this procedure the place we should assign to the thought and work of Galileo is by no means obvious. Galileo was not merely an empiricist; it may be claimed that he and not Bacon was the true founder of

[3]Galilei, *Conversations and Mathematical Demonstrations on Two New Branches of Science*. English translation by Henry Crew and Alfonso de Salvio. New York, Macmillan and Co., 1914, p. 193.

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modern philosophical empiricism. On the other hand there has been no rationalistic thinker from the time of Leibniz on who has not admired Galileo and cited his method. The logical structure of Galileo's natural philosophy is not to be described by the categories of empiricism or rationalism taken in their traditional sense. For his natural philosophy does not separate reason and experience; on the contrary it sets up between them an entirely new relationship. A law of nature must be based on facts; it must contain no element incapable of verification, of experimental proof. But the facts themselves are not derived from sensory experience alone. The brute facts, before they can become the basis for what we call a law of nature, must be analyzed and brought into a logical order. In Galilei's scientific work we find the first and in a sense the classic examples of this type of mental analysis. Although grounded in experience it does not identify scientific experience with what is immediately perceived through sensory perception or accidental, unmethodical observation. All inquiry into the laws of nature is, Galileo was convinced, bound to a twofold procedure—to a method of analysis and synthesis or, to use Galileo's own terms, to a method of resolution and a method of composition. Scientific thought must dissolve the complex phenomena of nature in order to reconstruct them out of their elements; it must differentiate them in order to integrate them.

Galileo was not yet in possession of those technical concepts and methods introduced by modern mathematical thought, by Newton's "theory of fluxions" and the differential calculus of Leibniz. But so towering was his mathematical genius that he succeeded in applying modern methods before they had found explicit expression or proof. By the application of the method of analysis and synthesis, of differentiation and integration, he arrived at his principal discoveries in the field of dynamics, his formulation of the law of inertia, his theories about the composition of movements and of forces, his deduction of the laws of falling bodies and of the parabola as the curve of projection. The law of inertia is a far cry from being the immediate descrip-

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tion of a phenomenon derived from sense-experience. It seems, in fact, to contradict all the data of sense perception, for we have never observed a body actually moving independent of the influence of any outside force. But our scientific thought and our scientific imagination may very well, and must, assume and presuppose a state that strictly speaking is outside our observation. In his *Farbenlehre* Goethe drew a parallel between Bacon and Galileo. He declared that Bacon was in no sense the true founder of modern empiricism, for his method was much more a method of disintegration than of unification. In contrast to Bacon with his haphazard accumulation of positive and negative instances, Galileo introduced a new type of induction, a method of simplification rather than of expansion and dispersion. In most of Galileo's fundamental experiments it is not so much the bulk of empirical evidence as it is his interpretation thereof that is of primary importance. Goethe goes on to say:

> Through Bacon's method of dispersion natural science seemed to be scattered forever. But through Galileo it became at once united and concentrated. Galileo proved in his early youth that for a true genius one case may stand for a thousand cases, inasmuch as he developed the theory of the pendulum and of the fall of bodies from the observation of a swinging lamp in a cathedral.[4]

Looking back at the great discoveries of Galilei we realize that throughout the history of science there has perhaps been no other instance of so great a goal attained by means so slight and inadequate. Galilei had no physical laboratory and no technical apparatus in our modern sense. Most of his instruments he invented and constructed himself. He built his hydrostatic balance, his telescope. He had no chronometer, no instrument for measuring time. When observing the swinging lamp in the cathedral of Pisa he counted his pulse to measure the time. Nor did he possess our conceptual tools. He worked without the infinitesimal calculus that in the hands of his successors, Newton and Lagrange, was one of the most powerful of intellec-

[4]Goethe, *Zur Farbenlehre, Historischer Teil, Naturwissenschaftliche Schriften* (Weimar Edition, Part II), Vol. 3, p. 246.

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tual instruments. By the power, the clarity, the precision, of his analytical genius he became the founder of what we today call theoretical physics.

Galilei was not a systematic philosopher in the sense we usually associate with this term. Yet although he did not, like Descartes, start with a general principle in order to deduce from this principle all the phenomena of the physical and spiritual universe, his various ideas were linked one with another in an admirably consistent whole. The concept of the unity of truth involves the concept of the unity of nature. Nature was for Galileo a system governed by inviolable laws. Galilei was not the first to conceive this idea. We find the same conception, more than a hundred years earlier, in the manuscripts of Leonardo da Vinci. "Necessity," wrote Leonardo, "is the master and tutor of nature; it is the subject-matter as well as the discoverer of nature; it is its bridle and its eternal ruler." But Galileo proved what Leonardo had felt as a great artist and as a great scientific genius. It was in Galileo that all the basic ideas and ideals of the Renaissance reached their full maturity.

Galileo should not be thought of as merely a great thinker and a great scientist. The manifestations of his genius were not limited to his discovery of natural phenomena, his formulation of scientific laws or his concept of the nature of the physical world. These are not his only and perhaps they are not his principal merit.

Kant, at the end of his *Critique of Practical Reason*, wrote:

> Two things fill the mind with ever-new and increasing admiration and awe, the oftener and the more steadily we reflect on them: *the starry heavens above and the moral law within.* I have not to search for them and conjecture them as though they were veiled in darkness or were in the transcendent region beyond my horizon: I see them before me and connect them directly with the consciousness of my existence. The former begins from the place I occupy in the external world of sense and enlarges my connection therein to an unbounded extent with worlds upon worlds and systems of systems and moreover into limitless times

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of their periodic motion, its beginning and continuance. The second begins from my invisible self, my personality, and exhibits me in a world which has true infinity, but which is traceable only by the understanding. . . . It infinitely elevates my worth as an intelligence by my personality, in which the moral law reveals to me a life independent on animality and even on the whole sensible world.[5]

In both respects Galilei was a pioneer of modern thought and modern consciousness. He was great not only in his intellectual genius but in his personality. And he was never greater than in the last years of his life, after his trial and his condemnation. There is an old legend to the effect that after he had abjured the heresy of the Copernican system Galileo added in a low voice the words "*Eppur si muove*," nevertheless it moves. These words were not spoken and could not have been spoken. Galilei could not defy the authorities of the Church who were the masters of his destiny. But as a prisoner of the Inquisition, and in the greatest personal misery, he continued and completed his principal work, the *Conversations and Mathematical Demonstrations on Two New Branches of Science*—a work that will always remain the classic of modern science. When he wrote it Galileo was more than seventy years old. He lived in utter seclusion, without friends, shut off from intercourse with other scientists, deprived of all means of scientific research and even of the ordinary comforts of life. He was suffering from several ailments and was without a physician's care. In carrying on his work under such circumstances Galileo became a great discoverer not only in the field of physical science but equally in the moral world.

Galileo realized that his work was not an end but a mere beginning and he foresaw its potentialities for the future. In his *Conversations and Mathematical Demonstrations on Two New Branches of Science* he wrote:

My purpose is to set forth a very new science dealing with a very ancient subject. There is, in nature, perhaps nothing older than motion,

[5]Immanuel Kant, *Critique of Practical Reason*. Translated by Thomas Kingsmill Abbott. Sixth Edition, revised. London, Longmans, Green and Co., 1927, p. 260.

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concerning which the books written by philosophers are neither few nor small; nevertheless I have discovered by experiment some properties of it which are worth knowing and which have not hitherto been either observed or demonstrated. . . . And what I consider more important, there have been opened up to this vast and most excellent science, of which my work is only the beginning, ways and means by which other minds more acute than mine will explore its remote corners.[6]

I find in one of the works of the great medieval philosopher, Bonaventura, a thinker of the 13th century, a passage reasoning that there must always be a gulf between a conviction based on religious grounds and a conviction based upon mere scientific or rational arguments. The firmness and security derived from faith and revelation are always superior to a judgment having no other support than logic or empiricism. As confirmation of this thesis Bonaventura pointed out that there had never been a man who had died for the sake of a speculative truth. A geometer who would choose to die for a mathematical truth would be regarded as a fool whereas every faithful and pious man is ready to die for any article of his faith. These are characteristic words, strikingly illuminating the difference between medieval and modern thought—the thought represented by Galileo. In Galileo there appeared not only a new science but a new spirit—the ethics of science. "To believe your own thought," wrote Emerson in his essay, "Self Reliance," "to believe that what is true for you is true for all men—that is genius. Speak your latent conviction, and it shall be the universal sense; for the inmost in due time becomes the outmost." These words we may apply to Galilei. He did not die the death of a martyr. But under the most tragic conditions he remained true to his great scientific task—he spoke his conviction and this conviction became the universal sense.

[6]*Op. cit.*

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Anglo-American Misunderstanding

HAROLD NICOLSON

FOR many years I have been concerned with the practice and study of diplomacy and I confess that I regard its future with some apprehension. It is often contended that wars are due to the ambitions of dictators or to the intrigues of interested groups and that if the common people were but allowed to conduct their own foreign policy, peace and amity would reign forever on the earth.

It would be comforting indeed could we persuade ourselves that the misunderstandings which have arisen between nations in the past were wholly due to the machinations of the "old diplomacy" and that the advent of democratic diplomacy will enable the peoples of the world to understand each other's difficulties and to apply the necessary unguents in time. If all the countries of the world had reached exactly the same state of civilization and if there were in fact a parity between their several standards of living, resources and markets, democratic diplomacy might possibly have a sedative effect. Unfortunately, however, the civilizations of the several nations are at widely different stages of development. They are multiform rather than uniform; some countries are dynamic and some static, some military and some civilian, some aggressive and others pacific. If these appalling diversities are to be reconciled we shall need immense knowledge, sympathy and understanding. Democracies will certainly possess great sympathy but I doubt that they will have either sufficient knowledge or sufficient understanding. Democratic diplomacy will more probably tend toward extreme nationalism in which isolation will mingle with competition.

Nor do I regard it as anything but a fiction that the common people are likely to have a clearer vision of each other's needs

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than that possessed in the past by the statesmen and the diplomatists. Emotionally the common people may well indulge in a vague form of internationalism; but when the clash of interests comes, when economic pressure leads to unemployment, democracies will tend to shape their foreign policies according to their own interests, without regard to the interests or even the rights of others. Often in years past the statesmen even of rival countries have been able to comprehend and to adjust one another's difficulties. I fear that as the basis of foreign policy and international negotiation becomes ever broader, comprehension will lessen. This is a pessimistic theory and a disagreeable thought. But I know that for the readers of THE AMERICAN SCHOLAR I can write frankly and without fear of causing offense.

I propose to consider Anglo-American relations as supporting the contention that Everyman has less comprehension of the common good than the statesmen and professionals have shown. Our statesmen and our diplomatists understand each other excellently. It is when one reaches the lower levels of society that one comes up against a wall of prejudice and misconception. If it were true that the common people understand each other better than their rulers, then assuredly the British and American peoples would always live in perfect accord. They have a common language and to a very large extent a community of law, culture and tradition. Yet in fact, although our principles of policy are generally identical, although our interests hitherto have not come into any violent conflict, there most certainly is no general popular understanding either of America in Great Britain or of Great Britain in America.

I sometimes visualize the relations between the two countries in the shape of a wedge-shaped prism with a ridge apex and a broad base. One side of the prism represents British opinion and the other side American. At the top of the prism there is practically an identity of purpose and mutual respect. Even below the actual ridge of the prism, even below the Roosevelt-Churchill or the Hopkins-Harriman level, there is quite a com-

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munity of opinion. The common climate and common atmosphere characteristic of the intercourse of our statesmen stretches downward from the ridge and includes a substantial part of the upper wedge of the prism. I have always found myself at ease when discussing world affairs with American diplomatists, scholars, lawyers or publicists. Their purposes are much the same as mine, the habits of their minds are not dissimilar, they react in much the same way to European or other environments and their ethical approach is almost identical. But as one recedes further and further from the ridge, as one leaves the narrow edge of the educated and experienced and reaches the broader levels of the masses, the prism appears to change in color and composition, and one observes with dismay that the whole structure widens out into a gigantic wedge of mutual misconception.

What is the nature of this misconception and how can those of us who care more for Anglo-American amity than for anything else seek to broaden the basis of that amity and to extend at least a yard or two further down the prism the understanding that assuredly exists at the ridge? It would be a mistake, in my judgment, to assume that the excellent relations at the top will by some process of transmutation sink downward and improve the composition of the structure as a whole. It would be better to examine the prism at its middle level, to analyze its composition and to consider by what means that composition can be rendered less different from the top in quality.

Starting from this standpoint I should say that the middle level of misunderstanding between the American and the British people is composed of certain *general* faults and of certain *particular* faults. It is a general, and wholly natural, fault for the individuals composing any community to identify themselves with that community and to regard other communities as "different" and therefore as in some sense opposed to themselves. It is a general, and again natural, fault for the ordinary man or woman to be distrustful of the unfamiliar, to note differences rather than similarities and to approach these

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differences in a mood of suspicion. The brain of man is a tiny and highly sensitive organ; we derive comfort and support from the consciousness of surrounding minds similar to our own in shape and color; the realization that there are other minds of different weight and texture causes disquiet and a stirring of dislike. In all political theory this predisposition on the part of the masses to adopt a suspicious, or even a hostile, attitude to anything "foreign" is axiomatically taken for granted. It is one of the general and inevitable difficulties one has to cope with.

But in addition to these general barriers one finds, between the ordinary American citizen and the ordinary British subject, certain particular barriers that one does not find, to the same degree at any rate, between, let us say, the Englishman and the Norwegian or the American and the Frenchman. If these barriers are to be lowered or removed we must examine them objectively and without fear of giving offense. I should imagine that public opinion in each country is almost equally to blame.

I shall exclude from this examination those particular barriers erected between the two peoples by what for the sake of convenience I shall call "the professional Anglophobes" of the United States. The Irish, German, Italian and isolationist elements in America have specific reasons for hatred and suspicion. It is not my business to consider whether these reasons are justified. In practice these elements constitute a persistent nucleus of infection and the area immediately around them is likely to be durably inflamed. Yet if the living tissue were in itself rendered healthy these points of infection would be innocuous. The difficulty is that the surrounding tissues are not always in good condition and that the poisons generated by these hostile bodies have an effect wider and deeper than they could exert if the entire organism were in perfect health.

Why should the malady of distrust have become almost endemic in our two peoples?

The first and most obvious of reasons stems from history. In

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learning history the British child is taken through a long series of triumphs and disasters, beginning with the invasions of Britain by the Romans, the Danes, the Saxons and the Normans and ending generally with the Battle of Waterloo. He learns that at different stages of our story we fought Caesar's legions, the Viking hordes, the Norman barons, the French, the Spaniards, the Russians and the Dutch. He reads of Agincourt and Crécy, of Blenheim and Ramillies, of Quatre Bras and Ciudad Rodrigo, of Abukir and Trafalgar, of Balaklava and Omdurman. The length and variety of his country's battles, the quickly changing succession of her enemies, leave in his mind a dispersed conception of her history. The average British boy or girl looks upon the American War of Independence as an unfortunate episode caused by Lord North's bungling; he has no idea that there was a second war in 1812. The average American's sense of his own individuality is, on the other hand, imbedded in his beliefs about the origins of his own country. He is convinced that his country came into being through the imposition, by force, of the "American Idea" upon the British idea. It is inevitable that in a country so vast as the United States, and having a population so diverse in origins and traditions, American education should lay strong emphasis upon this main unifying idea; if the melting pot is to melt at all it must be overheated. But this process of overheating, however wisely it may have been modified in recent years, cannot be expected to inculcate any ardent Anglophilism in the American young.

We are exposed, however, not merely to an anti-British bias but also to an anti-European bias, for a large number of Americans feel that their forebears left Europe because they did not like it. I have often been surprised on visits to the United States to realize how frequently the ordinary American looks upon "Europe" as some maleficent extension of "England." The more simple-minded American, loving his own great country passionately and desiring to be left in undisturbed enjoyment of his own opportunities and standard of living,

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inclines to regard Europe as a distasteful arena of imperialist squabbles into which America is drawn against her will. He tends to suspect England of being some connecting membrane through which the poisons of Europe infect the great white soul of America. He is aware with half his mind that we are in fact as pacific as he is and that our hatred of war is as deep as his own. He is aware with half his mind that this war is a war of principle and that the principles involved are common to the several branches of the English-speaking world. Yet the other half of his mind seethes with resentment at being once again involved in a "European" war; and it is but human of him to attribute this entanglement, not to a community of principle, but to the guiles of British diplomacy or propaganda and to the supposed capacity for clothing English selfishness in the white robes of Anglo-Saxon idealism. His resentment is not diminished by the fact that our success on land, as distinct from our successes at sea and in the air, has not as yet proved very remarkable.

To these historical and political barriers a social barrier must be added. To the Britisher the average American seems likely at moments to identify, if only subconsciously, the Great Britain of today with the somewhat distorted picture of 18th-century England received at school. Americans do not realize that within the last two centuries we have changed from an aristocratic and agricultural community into a community that is mainly socialist and industrial in character. Their misunderstanding is increased by their occasional contacts with the visiting Englishman—only the rich or highly cultivated Englishman can afford to cross the Atlantic. Nor does the ordinary American always remember that the vast majority of our population is composed of working people who are as conscious of their political and social rights as he is. The misconceptions thereby occasioned are increased by the marked difference between the British and the American manner. Americans are likely to interpret our British reserve as being due to arrogance whereas in almost every case it is due to our deplorable shyness.

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Conversely the English are likely to accuse the Americans of boastfulness when in fact they are merely ill at ease and desirous of making a good impression. If only our respective peoples could be convinced that each is acutely shy of the other (that the Englishman cowers in shyness as a tortoise in his shell and that the American seeks to reassure himself by talking a little louder than he would at home) much of this particular barrier would disappear. I myself am not in the least frightened by Americans (I like them too much for that) and I hope that I am able in their presence to be natural. But I have been disconcerted by the assurance that "I am not a typical Englishman" whereas I know in fact that I am British to the core. Similarly I have blushed to the roots of my hair on hearing some modest visitor from the United States complimented on the fact that "he is not in the least like an American." The force of assumptions is powerful indeed.

I do not underestimate these difficulties; indeed there are moments when they fill me with dismay. I am appalled also when I consider the economic friction bound to come when victory is won. We are a proud people and we owe you of America more than any country has owed to any other country in the history of mankind. Your mass production will after the war outrun the capacity of your home market; both America and Great Britain will be ardently seeking new markets abroad. If our pride is not to be wounded and your good temper is to be maintained, great intelligence will be needed on the part of both peoples.

It may seem strange, and somewhat impertinent, that I should have devoted so much space to what I *imagine* the Americans think of the British and have said so little about what I *know* the British think of the Americans. I have adopted this proportion deliberately, since for every Briton who consciously dislikes America there are three thousand Americans who consciously dislike Great Britain. There is, of course, a certain jealousy of America's riches and security. But the British are not by nature a jealous race and I do not believe that this jealousy

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is either very widespread or very profund. Moreover we have been so preoccupied during the last century with other competitors and other dangers that we have been inclined to take America for granted.

In recent years the American public have paid vast sums to their film industry and have thereby enabled it to flood Britain and the world with a horrible caricature of American life and character. It often strikes me as strange that the gentlest, kindest nation on earth should allow a deliberate falsification of its qualities to be presented to the outside world but I may well exaggerate the effect produced. Few Englishmen really suppose Americans are as self-indulgent, as stupid or as violent as Hollywood would have us believe.

Our general ignorance of American history, culture and traditions is, of course, an insult to America and a grave loss to ourselves. This gap in our education is now being filled and in future our schools and colleges are to devote far more time to the study of American institutions and the American way of life. I should like to see this movement extended; I should like to see an organized interchange of teachers between the two countries; I should like to see in London a permanent exhibition of American art, architecture, science and social services. Few Englishmen are vividly aware of the great things which you have achieved in these fields.

Americans tend sometimes to adopt toward us a "holier than thou" attitude that we find wounding and misplaced. We do not see that intrinsically there is very much difference between your "manifest destiny" and our "imperialism" nor are we convinced that the extension of your frontier, the incorporation of Texas or the acquisition of the Panama Canal were achieved by methods wholly different from those giving us our colonial Empire. Since the record of both nations is murky in spots we rather resent the assumption that your questionable deeds should be forgotten while ours should be held against us all of the time. Each of us has his good moments and if we are to like each other better it is best to concentrate on them.

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I see no possibility, at least during the present century, of basing any stable international relationship upon the affection felt by the masses of one nation for the masses of another. Such affection is largely imaginary. On the other hand I am sure that the interests of the United States and Great Britain are coincident and that it would be a disaster to mankind if after the war we were to go our different ways. Because the executives in the two countries, and even a majority of the legislative bodies, are agreed on this we may assume that the administrative machines will work in harmony if not in unison.

But if they are to work without friction we shall have to have some lubricant in the shape of popular good will. There is much good will in Great Britain toward America but there is a lesser proportion of good will in the United States toward Great Britain. The present state of Anglo-American relations allows too much sand to silt into the machine. We may not (owing to the difficulties created for us by three thousand miles of space and nearly two hundred years of history) be able to provide for each other any large quantity of lubricant. But we assuredly can, by patient thought and endeavor, remove much of the sand. We are doing many things over here to make the ordinary British subject better aware of the true nature of the American Idea; I believe we shall succeed, by educational and other work, in removing many prejudices and misconceptions. It is not for us to seek to enlighten the average American regarding those virtues we ourselves may possess. We do not ask for that. All we ask is that the scholars and teachers of the United States seek to adjust the whole problem to a more correct focus; and that they remind their fellow countrymen that, after the salutary lesson America taught us, we are not quite the same people we were in 1783.

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The Revolution of the Twentieth Century

ALBERT VITON

ONE of the greatest revolutions in the long and painful history of humanity is taking place under our very eyes. It is a silent revolution, unaccompanied by bloodshed, violence and terror; it has developed so gradually that like the swelling of the tides few have perceived its coming. But the absence of the usual manifestations which accompany revolutionary upheavals should not lead us to minimize the significance of the revolution taking place in the West. Historians of the future may very well consider this silent revolution far more significant in the development of humanity than all other events since 1789, when the Paris mob broke the chains of authority, liberated man and gave him dignity and rights. It will be known as the Revolution of the Twentieth Century.

The nature of the revolution can be stated simply; it is a revolt against war. For the first time in human history man is rejecting war. It is a revolt against war as a social institution. The glory has gone out of war. Not only have we ceased to admire war. We no longer accept it as a way of settling international disputes; we no longer believe it is part of the natural order from which we cannot liberate ourselves, struggle as we may. The ordinary citizen of the Western democracies no longer believes that war is inevitable.

One's imagination is dazzled by the magnitude of the revolution developing in the West during the past two decades. For 2500 years or more, saints and idealists have preached peace and prayed for it. Greek philosophers, Hebrew prophets, Christian saints, Roman stoics, humanitarian idealists of all ages

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and all countries have dreamed of everlasting peace among men. But instead of peace there were wars; instead of cooperation there were fears, jealousies and feuds. Now the age-old vision of saints has become the common quest of the multitude. In the very midst of a frightful war one can already discern the beginning of the new era when there will be a new society, new laws, a new morality. For the quest for peace has struck deeper roots in the masses of humanity than ever before. Peace is no longer a visionary ideal but has emerged as a reality that can, that must, be realized here and now. The change that has come about in the Western peoples is here to stay and only a complete re-evaluation of all values—the destruction of Western civilization—can restore the old morality, the old habits and the old gods.

One needs only to walk into the marketplace, visit a trade union meeting, hear a sermon, listen to the talk of farmers, to realize the immensity of the change. The crucial fact is that this attitude has become the spirit of the age and the passion of the multitude. It is not that this particular war is unpopular; it is not that the Americans feel, as do the Italians, that this is not our war; it is not that people have become infected with the fascist virus and do not care if fascism emerges victorious. This war is as popular as any war can be; the number of fifth columnists in our midst is insignificant. The overwhelming majority of Americans recognize the inevitability of the war and are willing to make the sacrifices necessary to achieve victory. But Americans no longer admit the need for war itself. There is a stoic determination to fight this war until victory is secured; but this stoic resolution is superimposed upon an even more fundamental conviction—that war itself is an evil no longer to be tolerated.

All around us evidences of the change abound. One influential publication writes of war as hell while another calls it a sin. Conspicuously absent are the scenes of public hysteria that accompanied America's effort during the last war. The public is in no mood for flag-waving, drum-beating and wildly patriotic speeches. Highly characteristic is the attitude of

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Protestant Churches. During previous wars Churches have invariably stood in the vanguard of militant nationalism; now they are not only tolerant toward political dissenters and pacifists—up to last December the Protestant Churches of America, influenced more by the views of the common laity than by those of a hierarchy with vested material interests, stood in the vanguard of the spiritual revolt against war, and even since then have continued to contribute the greatest number of pacifists. "The Church is not at war," *The Christian Century*, the most influential Protestant publication in America, has asserted time and again. It has made the daring statement that the role of the "Church in the present world situation is like that of a radiator of an automobile; it must stay out in front and keep the engine cool." Even the professional patriotic organizations have shown amazing tolerance toward pacifists and political dissenters. There has been none of the persecution mania that swept the country during the last war. Efforts by misguided intellectuals and paid propagandists "to teach Americans how to hate" have failed dismally.

If American statesmen fail to grasp that a new psychology, a new outlook are in the land they will be guilty of a cardinal error certain to prove tragically costly to them and to their country. The American public regards the war as "an unnecessary necessary evil." Each word in this expression is significant but anyone who has sensed the pulse of public opinion must acknowledge that emphasis is generally placed on the words unnecessary and evil. The outlook of the common man is fraught with stoicism and heavily laden with tragedy. Submission to the war is tinged with frustration and, what is more important, a spirit of revolt; for in many in this country a conviction has struck deep that this war could have been avoided and that war must no longer be part of the order of civilization.

No less profound is the change in the people of England. Perhaps the culture and temper of the present age is best revealed by the fact that despite three years of bitter warfare, despite the cruel aerial attacks that have destroyed England's

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ancient and magnificent monuments, despite the lawless and ruthless sea warfare the Nazis have practiced—despite all this, hatred has hardly raised its ugly head in Great Britain. There has been very little evidence of public hysteria and blood-thirstiness. No longer are pacifists singled out for public scorn and lawless punishment; scenes such as the stoning of men like Ramsay MacDonald and George Lansbury by half-crazed women and other guardians of the realm have been conspicuously lacking.

Governmental efforts, moreover, to create an organized enthusiasm for the war have ended in utter failure. The reaction to the efforts of the "brass hats" to teach soldiers "how to hate" is typical of the state of mind of the British public. Army authorities organized lectures on the brutal behavior of Nazi and Japanese troops. Instead of using rag dummies for bayonet practice they provided dummies filled with blood-colored water and officers were posted to scream "hate him, hate him" as the young soldiers were spattered with the blood-like fluid. The army authorities explained that soldiers who do not hate cannot fight. But a public that has ceased to glory in war rejected this excuse and so "severe" was the criticism "both from civilians and officers" that the hate schools had to be abandoned.

Symbolic also is the reaction of the British public to a little book about Germans published by Lord Vansittart, who for many years occupied one of the highest posts in the British Foreign Office. The noble lord aimed to expose the "black record" of the German people. He showed that Germans have always been troublemakers, that since the days of Tacitus they have instigated wars, that they have always nourished an ambition to dominate the world. Obviously the British should have welcomed such a thesis. Yet instead of accepting the German scapegoat the British public and the British press turned ferociously upon Lord Vansittart and accused him of blackguardism. The widespread discussion that ensued clearly revealed the British public as in no mood either to indulge in an orgy of

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pharasaism or to accept such an easy explanation of the causes of the war. The British public has come to realize that the roots of war must be sought in another direction—that so facile an explanation will not serve to prevent another Armageddon.

Even the European Continent—the home of vibrant, tense nationalism—speaks a new language, feels new emotions, reacts to different values. Ancient feuds about frontiers—whether a few miles of territory should belong to this state or that, whether a brook or a hill should be on this or yon side of the border—disputes for which millions of men once laid down their lives have become strangely incomprehensible. The new values towering far above all others are those of peace and social security. Nazi propaganda has known how to exploit the craving for permanent peace: the Nazis have repeatedly promised to establish a European federation in which German strength will make war impossible.

Our efforts to stir up the Continent against Nazi oppressors will meet with only limited success unless we understand that the quest for peace has become the ruling passion of those European peoples who stand knee-deep in blood. The collapse of France was owing to no small extent to the prevalence of this new and ardent longing. The youth of France saw no reason for immolating itself on the altar of ancient dogmas.

The new passion has not yet struck very deep roots in Germany. Yet even there the demand for peace has become much more widespread than is usually supposed. Not even Goebbels' unsurpassed propaganda machine has succeeded in re-creating the 1914-18 emotional enthusiasm for war. The German people accepted Hitler because they believed he would keep the promise to preserve the peace of Europe that he was shrewd enough to repeat in all his speeches; they submitted to the evils of the regime out of unquestioned confidence in Hitler's ability and determination to preserve peace. When war came, the scenes of rejoicing that broke out spontaneously in August 1914 when Berlin mobs went wild, shrieking "On to Paris" and cheering for the Kaiser and the army, were conspicuously absent.

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Instead there were sullen fear, sadness, bewilderment. Outbursts of national fervor have not accompanied even Germany's stupendous military victories.

A very different situation, it is true, confronts us when we turn to the non-Western world. In Japan there is no such profound yearning for peace. Although there, too, there is a group of liberals the minds of the populace are dominated by the militarists; the ideal of death in battle is still accepted by the people as a whole; war is still regarded as a natural form of international behavior. This lag in Japanese culture no doubt constitutes a menace and the democratic peacemakers will have to take it into consideration. Other Asiatic peoples, however, have been pacifists for many generations. China is not likely to become a menace nor will Russia nor India.

Certainly the present world conflict will not diminish the intensity of the cultural and psychological revolution. If the democracies win this war no new era of militarism by popular demand awaits us. On the contrary the more protracted the war the more widespread and intense will be the demand for peace. Every town and hamlet will clamor for such social, economic and political conditions as will avert a repetition of the disasters that have befallen us. The overwhelming majority of men and women—in the Western world, at least—are now convinced that we can have peace, that war is not part of the order of nature to which we must humbly submit, that war is the consequence of ill-regulated social institutions and that it is within our power to eliminate war. The supreme problem confronting democratic statesmen is that of translating this quest for peace into political reality.

If the analysis of the cultural revolution in the West, and especially in Britain and America, is correct, what does this development mean in terms of future world organization? Two conclusions of profound significance emerge. First, this war can be the last world war in a way that the war of 1914-18 was not and could not have been. Permanent world peace can now be created. I say "create" advisedly. For peace is more than

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the absence of war; it is a positive entity. Second, pure self-interest will oblige the English-speaking countries to create conditions facilitating permanent world peace. The survival of the English-speaking peoples, their culture, their social, political and religious institutions depends on their ability to assure permanent peace. The alternatives confronting these democracies at the end of this war will be peace or obliteration.

An unprecedented upsurgence of democracy throughout the world must inevitably flow from an Allied victory. Slowly and gradually during the centuries the fetters of authority in which the privileged classes and wealth held the life and fate of ordinary men and women have weakened. The march of God through history, to use a Hegelian expression, has taken the form of an extension of liberty. A democratic victory is bound to give a powerful impetus to the Western historical process.

The most significant extension of democratic control will probably be in the field of international relations. This is the most vital single field not yet brought under the control of the common man. Conduct of relations between states has up to now remained the monopoly of special, privileged classes. In England, where the House of Commons attained control over finance, internal affairs and the armed forces comparatively early, foreign relations remained until the outbreak of the present war the monopoly of the aristocracy. The British Foreign Office has been the most exclusive club in the world, membership therein generally passing from father to son. Characteristically the very growth of democracy during the last hundred years that made the House of Commons increasingly representative of the nation, reduced its influence over the conduct of foreign relations. The decline in the influence of the Commons on foreign affairs was especially marked after the last war: answers it received from the Foreign Office to important questions were frequently misleading; occasionally the representatives of the nation were not informed of vital changes of policy until there could be no retreat from a new position. Even in this country Congress has been able to control

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the State Department on rare occasions only. And similar conditions have prevailed elsewhere. In France the Revolution broke the economic power of the aristocracy but not even the Revolution could drive the aristocracy from the foreign office. In Germany, where the Emperor and his immediate entourage had retained firm control over foreign affairs, the revolution of 1918 brought not the slightest change in the personnel of the Wilhelmstrasse.

Already the present war has begun to affect the stronghold of special privilege. Democratic control over foreign affairs is being extended in Britain and America and without a doubt the common man's participation in the conduct of foreign relations will become more real after the conclusion of hostilities. Parliament's influence on the British Foreign Office has visibly increased during the past year or two. Symbolic of the change is the recent announcement by the British Government—in response to increasingly loud and frequent criticism by progressive and liberal sections of the population—that foreign office appointments will in the future be made on the basis of competitive examinations without regard to social rank. A similar change is taking place in this country, and the momentum of the change will undoubtedly mount in the near future. The last few years have witnessed an increasing discontent with the ways of the State Department, with its policies, its traditional methods of conducting our foreign affairs and the traditional methods of recruitment to office. The volume of criticism, far from diminishing, grows as the inability of the State Department to adapt itself to modern reality becomes more evident. Concrete and bitter experience has convinced many Americans that they must extend democratic control to the field of international relations.

In the democratic Anglo-Saxon countries there is a growing belief that the present war could and would have been avoided had Britain and the other belligerent countries extended the way of liberal democracy to their foreign offices, that we are paying an immense price for the prejudices of those who controlled our

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foreign affairs and for their failure or inability to understand the modern world. As the *Economist* of London pointed out in a brilliant editorial early in 1942:

> The inter-war period is one long illustration of the inadequacy of diplomats whose Europe had changed but little since the Congress of Vienna, and who were out of touch both with the struggling, emergent instruments of international government and with the explosive forces at work among the masses which were soon to sweep all the tentative experiments away. The British diplomat encountered by Mr. Harold Butler in the Balkans who "got other people to talk the language for him" was as remote from the politics of Geneva as from those of the Communist cell or the Nazi *Braunhaus*.

In future, relations between states must be conducted by men who understand the people, who serve the people, who are of the people. "For this," the *Economist* continues, "a veritable revolution is needed in the recruitment, promotion and retirement of the diplomatic service."

"The veritable revolution" is taking place and the extension of democracy to the field of foreign relations is likely to have far-reaching effects. It is not merely a question of replacing Tweedledee by Tweedledum. Democracy will refuse to sanction war—for the people do not want war. It will refuse to tolerate binding alliances which so often lay the foundation for war—although always concluded, of course, for the preservation of peace; it will oppose military preparedness, even for the preservation of peace; it will destroy the "balance of power" and the other nice systems evolved by the old diplomacy. The emotional reaction against these traditional bulwarks of peace, as diplomats of the old school termed them, will be overwhelming. Open diplomacy, public treaties openly arrived at—the hope of President Wilson—will become the demand of democracy.

The cultural revolution will make it the peculiar and even selfish duty of the English-speaking democracies to establish an international order assuring peace and world prosperity.

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Another world war can but prove disastrous to the English-speaking democracies. Let there be no illusions on this point: even if the British public should submit to another world war in a quarter of a century—and it is very questionable that even the meek and submissive British population would stand by its rulers in such an emergency—it is safe to assume that the English-speaking democracies across the seas would refuse to participate in the conflict. Long before 1939 an analysis of the cultural, economic and political tendencies in the British Dominions as well as in the United States led me to the conclusion that the Dominions, including the Dominions of Canada and South Africa, would inevitably join Britain in the present conflict; it was obvious also to every realistic observer possessed of a modicum of insight into political affairs that the United States would rush to the support of Great Britain and would send expeditionary forces overseas rather than see Great Britain defeated. I am convinced, however, that at the end of this war conditions will be fundamentally different. It is most unlikely that the United States or Canada or South Africa or perhaps even Australia will ever again become partners in a purely nationalistic international conflict.

Rather than take up arms the peoples of most of the English-speaking countries will in the future accept any international order not entailing political slavery. Unlike many European countries, the craving for peace at any cost is not likely to become so powerful in America that the people will refuse to defend their independence at the cost of war. But unless there is a complete reversion in the present current of thought the people of America will refuse to take up arms to defend "The Atlantic System," our civilization, our culture, the democratic way of life, anywhere and everywhere in the world if these are threatened by militaristic and fascist powers. President Wilson—and history has shown that he was a much more realistic observer than the so-called Realpolitiker of the Old World who sneered at his idealism—recognized even in 1918 the nature of the cultural revolution emerging in the West

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during the last world war; he foresaw the day when the peoples of the democracies would simply refuse to fight. History has moved more slowly than the prophet of democracy anticipated, but it has moved. The day has come.

If we fail to create the essential conditions for durable peace the supremacy of Anglo-Saxon democratic culture, not to speak of the political and economic supremacy of the Anglo-Saxon peoples, will unquestionably be terminated ere long even if we win the present war. That nations and groups will arise to challenge the Anglo-Saxon system can be accepted as axiomatic. In the past the system was defended by force of arms. Now that we are no longer prepared to defend it with blood and tears we must buttress it with peaceful institutions. We must devise administrative institutions to safeguard the fruits of victory—the only way whereby we can safeguard our victory in the present war. We must find ways other than the verdict of battle to deal with and deter rivals.

These are the implications of the cultural revolution. Under conditions of permanent peace we can survive, prosper and even dominate the world culturally. Our cultural and political supremacy will not survive, and we may be reduced to the rank of second- or third-rate powers, if we permit the re-emergence of the conditions producing the present world conflict. For a victorious conclusion of this war will give our way of life a world-wide supremacy. This supremacy can be preserved only by institutions radically different from those of the past.

Certainly all of Britain's interests, whatever the case in the past, are now inextricably rooted in the preservation of peace. At the end of the war Britain will still be a great power. She will enjoy immense prestige throughout the world. Although her economic and direct political power will have declined, her political influence, and above all her cultural influence, will be unparalleled in her history. Another war, however, can but gravely threaten a military defeat for Britain.

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Two Worlds

AGNES YARNALL

The sea runs blue
As it used to do,
And the ships pass by
Against the sky,
And the nights come down
With the tropic moon,
As they used to do.
The palms blow back,
And the delicate track
Of the little crab on the beach is seen
Against the sand's soft fiery sheen.
The jingle shells,
Like broken bells,
Shine in the bitter seaweed hair,
And the Portuguese Men of War lie there
Like wasted jewels upon the beach,
With their beautiful tentacles left to bleach,
And their beautiful color left to fade,
While the waves slide up in a slow parade,
Back and forth
In a creamy froth
As they used to do!

The color, the sky, the air, the sea,
Are all the same as they used to be;
The lizards run
In the glassy sun,
And the mockingbird
Can still be heard
Fluty and clear
In the sea-grape there,
And the pelicans sit on the sea and stare
At the blue immensity everywhere.
The smell is the same, the tar still seeps
Out of the boards where the beetle creeps,

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Two Worlds

And the bougainvillia stains the wall,
Nothing is changed, nothing at all.

Only one thing — the World Outside,
Where a similar living has passed and died;
The World Outside, which is dark and new,
Where no one does what they used to do.

Here I can saunter down the street,
Watching the sun and shadow meet,
Hearing the sound of bicycle bells,
Buying a necklace made of shells,
Seeing the fancy ladies pass
In their twinkling cars of metal and glass;
While the children run in a bright array,
Going down to the beach to play
As they used to do.

At sunset time the fish-boats come
In through the Inlet, rolling home.
The sky gets darker and darker blue,
The wind dies down and the stars prick through,
The moon comes out in a heavy glitter,
And the smell of the sea is damp and bitter,
And the little crabs come out for food
And they skitter and dance on the wet driftwood.

Everything is as it used to be,
Everything — even memory.

Everything but the World Outside,
Where even memory has died!
That World which waits for me and you,
That World which we must enter too
Though the sea runs blue
As it used to do,
And the ships pass by
Against the sky,
And the nights come down
With the tropic moon,
As they used to do.

Palm Beach —
March, 1941.

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Our Universe

ROY K. MARSHALL

A FEW years ago at a general lecture on astronomy given by the best-beloved woman astronomer in the world I sat in the row ahead of a comely college girl. When casual mention was made of the fact that the nearest external galaxy, pictured on the screen, is 85,000 light-years distant the girl behind me groaned audibly, "There she goes!"

Numbers, and their geometrical representations in the form of diagrams such as graphs, should be considered among the most useful of man's inventions since they enable him to express exactly the relations between quantities. Peter Apian's statement in *Astronomicum Caesareum* (Ingolstadt, 1540) is apt:

> I set out only what is found in the first course in arithmetics, much not clearly, but without which neither astronomy nor other sciences can be expounded correctly, for acquaintance with numbers brings not so much a knowledge of the stars, as it prepares the minds of men for every other study, and it was not thoughtlessly that Pythagoras said, "He knows all who knows his numbers."

The numbers used in astronomy are the meat and substance of the whole picture whereas the words are often merely expressions of opinion. The numbers are the results of observations and measurements secured with accurately made and scientifically designed instruments. They are not plucked from a dream; and since they are derived by sound methods usable for terrestrial measures as well as for those in the larger realm of the universe we feel sure of them.

About a century and a half ago Sir William Herschel discovered that when good telescopes are used there are a great many fuzzy objects to be seen in the heavens. Some of them, under high magnifying power, were revealed to him to be clusters of stars; others cannot be resolved into swarms of stars even

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with the far better telescopes of our own day. All the hazy objects that Herschel could not resolve into stars he called "nebulae."

There were many who theorized concerning the nebulae. Some felt that with sufficiently powerful instruments all would be demonstrated to consist of stars; others believed that here were actual masses of gas as yet unorganized into stars. It has been only three quarters of a century since Sir William Huggins demonstrated with the spectroscope that some of the nebulae are swarms of stars and the others clouds of gas.

Among those known to consist of stars there are many displaying a spiral structure—two curved arms streaming from a more or less compact mass at the center. If these objects are made up of stars they must be at enormous distances from us to cause the stars to blend into such an amorphous cloudlike mass. The discovery of nebulae revived an old idea that the whole of Creation—*Kosmos* was the word the Greeks had for it —is organized not into a single aggregation but into many such aggregations, each enjoying a separate existence as an "Island Universe." In one such "universe" we live; when we observe the "nebulae," especially those of spiral and related types, we look upon the other "islands" in the sea of space. Rough estimates of the size of our island permitted equally rough estimates of the sizes of the others and of their distances from us. A number of observational details combined to bring more and more of the astronomers of twenty years ago into the ranks of those who believed in this theory. Outbursts of "new stars" similar to those which sometimes appear in our more immediate neighborhood were observed in some of the spirals. If these stars are actually of the same nature as those we have observed relatively nearby they must be at great distances, for they have seemed quite faint.

Despite the accumulation of evidence some astronomers believed the universe to be a single agglomeration in the depths of which we (the Sun and its attendant family of planets) are immersed and on the fringes of which the spirals are located.

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They pointed out that the spirals are obviously connected with our stellar system, for it is a well-known observational fact that as one works away from the borders of the Milky Way the number of spirals increases; practically no spirals are to be found in or very near the Milky Way itself.

This was indeed a very important point. No one seriously doubted that the Milky Way marked the "rim" of our stellar system. Since Herschel's day, and even earlier, the Milky Way had been explained as an effect caused by our looking in the direction where most of the stars are to be found. The stellar system was pictured as roughly watch-shaped—or of the shape, said Herschel, "of a grindstone." If, in such a system, we are located near the middle of the second hand (in the watch model) we are able to see more stars when we look out parallel to the face of the watch than when we look out perpendicular to it. Moreover when we look toward the middle of the watch face we see more stars than when we look in the opposite direction. The Milky Way is almost a great circle in the sky and one part of it—toward Sagittarius and Scorpius, in the summer evening sky—is much brighter than any other. The center of our stellar system lies in this direction; we are displaced toward one edge, somewhat as the pivot of the second hand of a watch.

The Milky Way, then, is an essential feature of our flattened stellar aggregation, and if the spirals show some systematic arrangement with respect to the Milky Way it would seem to indicate that they have an intimate connection with it—that they are a part of the system of which the Milky Way is such an important manifestation.

It was even more evident that these spirals are quite interesting objects when, in 1918, it was discovered that they possess the highest velocities yet encountered in nature. In measuring the velocities of objects toward or away from him the astronomer uses the spectroscope, the instrument by means of which we have learned the constitutions and compositions of the stars and nebulae. Huggins in 1864 had found that certain "nebulae"

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show spectra consisting of a few bright-colored lines only, an indication of their gaseous nature; others, and among them the spirals, show spectra consisting of complete bright-colored backgrounds crossed by dark lines, an indication of their stellar composition (for such is the spectrum of a star or group of stars). These dark lines should occupy certain definite positions when referred to a standard or calibration spectrum formed in a laboratory; if they do not, the distance between the observed object and the observer is changing. A shift of the lines in the redward direction indicates an increasing distance; a shift in the violetward direction indicates a diminishing distance. In either case a measure of the amount of the shift of positions of the lines leads to a value of the speed with which the distance is changing.

This "Doppler-Fizeau effect" is quite analogous to the change in the pitch of the sound of an autohorn as the car approaches, passes and draws away from us. As it approaches, the pitch is at one level; as it recedes, the pitch is noticeably lower, yet we know that the shift is only apparent. The change in pitch is determined by the speed of the car, and a careful measurement of the change would enable us to determine the speed.

Velocities for the stars amounting to as much as a few hundreds of miles per second have been determined though these are exceptional results; the average is much lower. Some of the stars are approaching, others receding. But when the velocities of the spirals were determined they were discovered to be much larger than any other stellar velocities known; far more important was the strange fact that nearly all the spirals were found to be receding from us.

Harlow Shapley less than twenty years ago summarized the observations of that time when he said that since the faintest objects possessed the highest velocities, the velocities seemed to depend on the masses or (somewhat as an afterthought) perhaps on the distances of the spirals from us. The mass of a star seemed to determine its brightness; perhaps for the spirals also this would prove to be true, for the spirals differ in apparent

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brightness as do the stars. Moreover the less massive a star is the faster, on the whole, it moves; perhaps the faint spirals are less massive and hence move faster than the bright ones.

Because the spirals avoid the Milky Way they were thought to be members of our stellar system; because they recede with such high velocities they were thought to be on the verge of severing that relationship, if they had ever enjoyed it. The presence in the spiral of "new stars," of very low apparent brightnesses, seemed to indicate enormous distances from the earth for them. But one astronomer believed he had directly observed the rotation of one of the spirals, by a small but certain amount—an indication that they couldn't be very far away.

This was the status of the problem not two decades ago. We may as well at the outset dispose of the last bit of evidence presented. It was an observation difficult to make and has since been repeated with negative results. The galaxies (for that is what we now call the spirals and related objects) are too far away for their rotations to be measured directly as yet. The fact that the galaxies avoid the region of the Milky Way is now accepted as one of the best proofs that they are external objects rather than members of the stellar system we call our own. In this galaxy of ours we find much evidence for the presence of a material that absorbs light. It pervades the space between the stars and is especially extensive in the thin layer defined by the Milky Way. This material would serve to obscure those spirals lying in the direction of the Milky Way and to render faint those lying near its borders. Spirals at right angles to the Milky Way are relatively unobscured, for the layer is relatively thin. But the most conclusive evidence comes from the spirals themselves. Some of them appear to be great ragged pinwheels; others are tilted at all angles to the line of sight; others are seen edge on. These last very often look like rather thin spindle-shaped objects with a swelling in the middle marking the nuclear region. Across the whole thing, from one tip of the spindle to the other, runs a dark streak—undoubtedly

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a layer of dark material which pervades the most crowded regions of the pinwheel. When seen edge on this black streak, which appears to be a black bar, hides from our view the bright material in the middle. We cannot see inside such an object through this dark stuff; if we were located inside it we could not see out. It is exactly such a layer of absorbing material that prevents our seeing anything outside our stellar system in the direction of the Milky Way.

The present picture, then, is one which is precisely that of the early proponents of the "Island Universe" theory. In order not to misuse the word "universe," however, we call the islands "galaxies." There are a few astronomers who prefer to use the old misnomer "nebulae" for these objects and who thus confuse the distinction between galaxies and those gaseous objects in our own galaxy which are true nebulae, or clouds of gases.

The galaxies, of which our own stellar aggregation is one, seem to be of three general types. Most of them are spirals; some are amorphous shuttle- or spindle-shaped objects without observed spiral arms; a few are irregular clouds of stars with no appearance of rotational symmetry. The galaxy in which we live is probably a rather sprawling spiral although this cannot as yet be definitely stated for we are immersed in it and have difficulty in seeing it as an objective whole.

For his units of distance the astronomer uses specific terms which are no more unreasonable than the familiar terms we use in everyday conversation. A convenient unit is the *light-year*, the distance light can travel in one year. The velocity of light is about 186,300 miles per second and there are more than 31,500,000 seconds in a year. The light-year bears about the same ratio to the Earth's distance from the Sun as the mile bears to the inch.

Our galaxy is 100,000 light-years in diameter; many others are similar in size. Probably most of the spiral and elliptical galaxies are rotating and ours is no exception; at our distance from the center or nucleus of our galaxy about 250,000,000 years are required for one circuit—that is, several complete

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circuits can have been made during the known period of geologic time.

The galaxies, as determined by means of the new stars, variable stars and other objects in them which we assume to be similar to the seemingly analogous objects in our neighborhood, are of the order of 1,000,000 light-years apart. If one were to lay out a schedule of observations to include long-exposure photographs of every square degree of the sky approximately 100,000,000 galaxies might be photographed with the largest telescopes. Each galaxy comprises about 100,000,000,000 stars (the number of separate crystals in about twenty-one tons of sugar). With a few irregularities which may or may not be important the galaxies appear to be sprinkled in a roughly uniform fashion through all the observed region of the universe, out to a distance of about 500,000,000 light-years in all directions, the limit to which modern telescopes penetrate. The matter of distribution is one about which there is considerable discussion at the present time. It is recognized that in various parts of the sky there are a number of clusters or clumps of galaxies. One opinion holds that these clumps are rather small local disturbances in what is roughly a uniform distribution; according to another opinion these clusters and clouds of galaxies are rather more important than that.

As a matter of fact as we go to fainter and still fainter objects the numbers of galaxies per unit volume do not remain constant, either over the face of the sky or in depth. The distribution over the sphere can be smoothed without too much straining of the conscience but the distribution in depth seems to be a somewhat different matter. The galaxies appear to become less numerous as we travel outward.

Such an anthropocentric distribution is as distasteful to the modern astronomer as the reverse situation was to the devout fundamentalists of a few centuries ago. European civilization has been removed from the center of the world, for there is no preferred spot on the surface of a spheroidal Earth. The Earth has been removed from the center of its own system and

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has been made but one of the nine planets and goodness knows how many asteroids, meteoroids and comets revolving about the Sun. The Sun has been found to be about 30,000 light-years from the center of the galaxy in which it is immersed. Wouldn't it be strange, then, if our galaxy were to be located in the center of a universe consisting of galaxies thinning out in all directions?

We seem to be confronted by a reinforced dilemma, for the galaxies all appear to be receding from us. Not only do we appear to be at the densest portion of the universe; the universe seems to be centered on us in the matter of motion also, and those galaxies which are farthest away appear to be receding most rapidly. It looks as though there were a practically linear "velocity-distance relation"; a galaxy twice as far away as another possesses a velocity twice as great as the nearer one. To date the highest velocity of recession to be determined is a little more than 25,000 miles per second.

Of such stuff is the idea of the "expanding universe" made, yet some there are among astronomers who recoil from the idea. When a new set of data is revealed the scientist feels it his duty to "explain" it. Of course he never really explains anything—he merely fits what he observes into the old picture he has drawn or, if necessary, he redraws the whole picture to make the new data fit. These high velocities, centered on us, cry out for some kind of "explanation"—unless we wish to be lazy and to assume that they deserve no more serious attempt at explanation than the very existence of the universe.

But is it possible that they are not actual velocities? Such velocities in the line of sight are derived from measuring displacements of lines in the spectra of the galaxies. In our more immediate neighborhood such shifts can be shown quite conclusively to indicate motions. Are we, however, justified in extrapolating such an explanation into a realm we are only now beginning to explore? Is there not something else which could produce such shifts?

Frankly, we really observe only the shifts of the spectral lines in the redward direction. In certain other lines of physical

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research such a shift is accepted as a loss of energy. Therefore, if the light of a galaxy loses energy before reaching us the spectral lines will be shifted redward as though the galaxy were receding from us. Since these "red-shifts" are proportional to distance the loss of energy would be proportional to distance. Might we not postulate a "light-fatigue," saying that light gets tired (loses energy) simply in the act of traveling?

Loud voices rise to proclaim that there is nothing in the present theory of light to permit such a phenomenon. We might equally loudly remind objectors that the theory of light is something framed from observations in a limited region of space and that we may now have entered a larger field in which many reinterpretations must be expected. For the first time we have begun to examine light which has been traveling for many millions of years. Until we have full knowledge to contradict it, a supposition of light-fatigue offers a common-sense explanation of the phenomenon.

The apparent falling off in the number of galaxies as we reach greater distances is erased by such a postulate. If energy is lost as light travels, we must correct our estimates of the brightnesses of the galaxies a little bit to allow for the amount of the loss. Properly treated, the corrections for red-shift result in a uniformity of distribution in depth. This should ease our minds considerably; our own region of space is then no longer preferred.

May we consider it a riddle solved? Are the red-shifts indicative of a light-fatigue and not of a motion of recession? Net yet; there are a few other ideas we must keep in mind. It is quite possible that the galaxies are receding from us and that naturally those which have been moving fastest have been able to get farthest away. The irregularities of distribution would then stand as real, not to be explained away.

To the relativistic cosmology, according to which we inhabit a three-dimensional universe of perception curved in a fourth intangible dimension, go the honors for a rival explanation of the character of our universe. In such a universe the measure-

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ments derived by Euclidean methods will not be exactly right and the distribution of the galaxies must be corrected by the application of certain equations. In a relativistic cosmology the recession of the galaxies is again real, for such a universe must be either expanding or contracting and we observe it to be apparently expanding.

As matters stand today you may take your choice between two fundamentally different kinds of universe. One is more or less static; the galaxies may be moving a little bit, but the large red-shifts we observe are interpreted as losses of energy through a newly discovered principle of nature—light-fatigue. The other is an expanding universe, of finite volume in three dimensions, the "surface" of a hypersphere curved in four dimensions, increasing in radius, yet always unbounded.

We are awfully young to feel that we have solved all of nature's riddles or even that we have solved any of them correctly. Yet we must not belittle ourselves too much. We reach out to plumb the depths of space, to weigh the stars and time their motions. We probe the hearts of atoms as well as the most distant bounds of the universe. It is no mediocre creature that has this yearning to know and the will to try to find out. How much less trivial then does he become when he has succeeded so well in reconciling so many confusing bits of information in the one field of science I have dared to sketch? Noyes has set our theme in his "Watchers of the Sky":

Day after day the slow sure records grow, awaiting their interpreter;
Who that once has seen how truth leads on to truth
Can ever dare to set a bound to knowledge?

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Critical Principles and a Sonnet

DONALD A. STAUFFER

I REMEMBER that the night was particularly fine. The five of us in my car had driven down to Ripton, just two or three miles, to get Mr. Ransom an after-dinner cigar, for there were no cigars in Bread Loaf. Mr. Ransom bought five of the very best they sold in the grocery store; I think they had only one box, and had had that on the shelves for a long time. He smoked his cigar because he liked to smoke cigars. Ben and Dan and I smoked ours because it seemed an occasion, like an annual banquet; Elizabeth did not smoke for fear of being paralleled with Amy Lowell.

When we came back from Ripton, we sat for a while on the side porch and watched the woodchucks in the bright green meadow below. The sun was setting beyond Lake Champlain over in New York State, and the tree shadows grew longer and began to encroach on that bright green field.

We lingered on the porch and were in no hurry to go indoors, even to Shakespeare. There had been much talk at the school that summer about critical principles. We had agreed to give, one after another, our interpretations of the same poem, as seriously and simply as a perfect August night in Vermont would permit. The critical principles would have to take care of themselves. The poem was the thing.

The sun went down. The earth was alive—not dreaming on things to come, not tragic nor mourning nor sinful, but immediate, calm, joyous. And as we looked up at the sky, still moving with a light that no longer reached us, perhaps some of the others went over in their minds, as I did, the lines of Shakespeare's 146th sonnet which we had chosen as our focus.

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Poor soul, the center of my sinful earth,
. . . these rebel pow'rs that thee array,
Why dost thou pine within and suffer dearth,
Painting thy outward walls so costly gay?
Why so large cost, having so short a lease,
Dost thou upon thy fading mansion spend?
Shall worms, inheritors of this excess,
Eat up thy charge? Is this thy body's end?
Then, soul, live thou upon thy servant's loss,
And let that pine to aggravate thy store;
Buy terms divine in selling hours of dross;
Within be fed, without be rich no more.
So shalt thou feed on Death, that feeds on men,
And Death once dead, there's no more dying then.

When we went indoors we put pieces of paper in a hat and drew them out to determine the order in which we should talk. I don't pretend to be putting down what we said, but a fraction of what I remember. I am purposely collapsing our meditations-on-a-theme and omitting the little things. It would be just, however, to say that no word in the poem managed to escape someone's attention. And at this point, if I were writing a scholarly article, I should have to say that I am indebted to my friends for help but that the misrepresentation of their opinions is my own idea.

I suppose I must be inventing a great deal, for I took only a few notes and spent most of the time lying on the window-seat, and watching. The sunset against the outward walls seemed now less important than their faces under the strong light on the center table—Mr. Ransom relaxed in smiling contemplation over the last cigar, Elizabeth's look of sensitive and inward thoughtfulness, Dan's eagerness intensified by his crew haircut, Ben frowning over his book and deciding how to start.

Ben Brower: Perhaps the best beginning is to translate the poem into direct assertions in prose. The sonnet—and this is one of its most striking features—is dramatic in form; the poet is talking to his soul; one part of his consciousness is giving advice to another part. The argument is that the body and

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bodily pleasures, being transient and mortal, merit less attention than they ordinarily receive, or than they have received from the poet in the past. By a relative neglect of the body, therefore, and a concentration upon the soul which is immortal and partakes of divinity, mortality itself may be disregarded and even destroyed and spiritual strength may be achieved.

Yet such a prose analysis of the argument hardly begins to touch the poem. We must also look at the subtle shifts in emotional moods that give the sonnet its own poetic individuality. The tone at the beginning is reflective and even depressed. "Poor soul," followed by a pause, makes the opening meditative, sad, uncertain. There is a sharp change of tone, however, after the first two lines. A strong beat starts the third line running, as if the poet in his questioning were irritated at the soul's defeat. And in the succeeding questions the tone shifts steadily toward conviction that the course of the poet's life should and must be changed. As a result the final section of the poem moves on to assertion and action and closes in a key of affirmation far removed from the poignant, pitying doubt of the opening lines. This sonnet does not leave the reader in a quiet, single, simple frame of mind but carries him rapidly from one mood to another; it modulates from the minor to the major. Much of its richness comes from the various double meanings and overtones in the words and phrases; and in the main this complexity springs from the many fields of imagery which Shakespeare uses in order to realize his argument—architecture, real estate, money, inheritances. The metaphors derived from clothes and from eating give the sonnet a quality of robustness and sane humor throughout. Perhaps these particular images, more than any other single element, make the poem distinctive.

For me, as a teacher of the classics, the word "excess" in line seven suggests unescapably Aristotle's doctrine of the mean. Such an association may have no general validity. Nevertheless, in my own case, Aristotle's whole system of ethics gives weight and dignity and complexity to a word which Shakespeare is here using as an unmistakable judgment of value.

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JOHN CROWE RANSOM: But do you not find the imagery of the eating worms itself so excessive as to destroy any calm ethical judgments in the argument?

BEN: Gross and sensational it is, no doubt. And necessarily so, if the poem is not to collapse into pure preachment. Since the sonnet is in constant peril of turning into a flat moral lecture, Shakespeare cleverly manages to keep the argument from appearing priggish not only by using such emotional imagery but also by throwing most of it into the form of questions. The impression I get from the whole is that Shakespeare is being over-ingenious. He is writing with an air of great sophistication and worldly experience.

I won't hold up this discussion by trying a complete analysis of the poem. This would demand, for one thing, comparisons with other poems. Such considerations might lead us to a parallel with Donne's sonnet, "Death, be not proud," and that comparison to others, and to others, and I would still be talking when the sun came up over Bread Loaf.

DAN AARON: We must not let that happen to me either. And as I so nearly agree with Ben's method of line-by-line analysis and with many of his individual explanations, I shan't run into that danger. Let me make my observations about as long as a night letter. I concur in thinking that much of the force of the poem comes from its everyday images, though some of these have enough ambiguity to delight William Empson. We have leases and costs and servants and mansions and stores and buying and selling. We have "terms," which not only suggests "terminals" and therefore gets mixed up with ideas of time and eternity, but also suggests the terms of a contract—mercantile bargaining. Every line, every phrase, almost every word, as I run over this poem, brings up such complex associations. There's no use starting them, for they are endless.

But what strikes me particularly about the poem is its tone. I find it jaunty, full of a kind of super-wit—not as complex as the Metaphysicals, I suppose, either in logic or syntax—but definitely super-wit. It is positive and clever: Death may be

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hoodwinked and cheated out of its power only by the poet's resolved attitude toward the body. Yet the poem is forceful because it is genuinely dramatic: in spite of this central mood of jauntiness, the opponents are the worms, the flesh and the grave; therefore a certain grimness and irony are present.

ELIZABETH DREW: I do not see, Dan, how you can call the tone of the whole poem jaunty and witty, nor where you, Ben, find this sane and robust humor.

BEN: In the imagery. Think how bloodless and highly serious the poem would be without its food and clothing!

DAN: And if the poem is not jaunty and witty and grim and ironical, what is it?

MISS DREW: It is plaintive, for one thing. Surely at the beginning Shakespeare is gentle with an almost paternal pity toward the soul's credulity.

But I would rather begin with my points of agreement. I feel, too, that the poem is highly dramatic in presentation, although it does not seem to me so much Shakespeare lecturing his soul as, more profoundly, a warfare between spirit and sense, with sense, perhaps, whispering an ultimate supremacy. I agree also that the surface movement of the poem shifts in the octave—from plaintiveness to impatience, and that it turns in the sestet to positive assurance and the prophecy of victory for the soul. Apparently, then—but only in its surface statements—the movement of the poem is ascetic.

Moreover, I am in accord with Dan and Ben in marvelling at the effectiveness of the imagery and am fascinated by the associative "logic" which you, Dan, pointed out so well in minor instances—linking the images in many chains, or weaving, to shift the figure, a solid warp and woof of varied colors. I think, however, that Shakespeare's words may be praised not only for their vividness but for their rhythmical appropriateness. Sometimes his control of complexities is called to our attention by formal grammatical and logical balances. Thus

Buy terms divine in selling hours of dross

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simultaneously carries on three threads of thought: concerning marketing, time and value. It also sets up oppositions for each. And all three threads of thought merge to suggest the superiority of the spirit to matter, of immortality to evanescence, although neither of these ideas appears as straight statement.

And now I come to something which I find hard to put in words and impossible to defend or demonstrate logically. It is the difference between the feeling of the whole poem and its argument. I do not believe that Shakespeare is making out a case for immortality except as a formal device. He convinces neither himself nor me. Not for what it may be in the future but for what it is here and now the human soul is both poor and magnificent. We have talked a good deal about Shakespeare's complex use of interrelated images and multiple meanings and about the density, the solidity, which such use gives the poem. The emotions aroused by the thought are no less densely ambiguous though the thought itself is clear and simple enough. Superficially I suppose we could call the doctrine of the poem Christian; it is conventional in its argument; it is almost sentimental in its doing away with the painful and the transient and the worthless, in its centering man's hope upon immortality and a system of future rewards and punishments. Yet in reading the poem I feel not a future but an immediate triumph over death.

This is Shakespeare's "Sailing to Byzantium." And as with Yeats, his problem is to find some certain resting place for the human spirit as the body betrays him. Both Yeats and Shakespeare resent "envious and calumniating time" and rebel against the inevitable fading of the body's mansion—this "tattered coat upon a stick." Although they bitterly proclaim that the body must know its place, the intensity of their rebellion only shows the intensity of their love. This feeling, for me, makes the last lines even more poignant than the opening; for Shakespeare's imaginative moving toward "terms divine," to him so tenuous, only increases the glory of the senses and of this world, which he has realized, here and elsewhere, so sharply.

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He is aware at once of the values of human flesh and human spirit; and the final couplet, then, with its circular movement, seems to convey on its deepest level the feeling that life is process, that being and becoming are one and inseparable. The individual life—not immortality, and not life in any one of its aspects—is in itself achievement and confirmation.

DONALD STAUFFER: You have said what I dimly felt, Elizabeth, so much better than I could that there's no need nor luck in my trying. I must take a different tack.

At the start I knew I liked the poem and was puzzled by it. I tried to ask myself why I liked it. Basically, I decided that my liking—of this poem or of any poem—sprang from moral agreement with the poet. I do not think that this is part of an esthetic judgment. But I find that in my case this conviction of the importance of the subject is a necessary preliminary to more purely esthetic pleasures in the form or manner or finality or perfection of the expression. I must be interested in *what* is made into a poem before I can wholly enjoy the making. Like you, Elizabeth, I was not convinced in this sonnet either of the worthlessness of the body or the immortality of the soul. Shakespeare seemed to be setting up an hypothesis, an imagined situation, which would allow him to present diverse emotions quite alien to the reasonable argument—such emotions as pity and humility before man's helplessness and weakness, bravery in the face of death, a piercing sense of preciousness and brevity in the physical life which ostensibly he was disowning, the need for defiance against the canker Time.

I accept these emotions and these moral ideas, and such instinctive acknowledgment seems to increase my sheer delight in his technical achievements—the unforced multiple meanings, the four questions turning to positive injunctions just at the start of the sestet, the conflict achieved rhetorically and rhythmically, the formal symmetry that makes easier the development of the thought.

Finally, I found that in spite of any theories I may try to hold about an absolute poem complete in itself, much of the

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richness of this sonnet came because I knew it was Shakespeare's, so that for me this poem carried in it the weight and associations of his other writings. We listen to the governor of a great country with more attention than to an ordinary citizen; we like the familiar voice of a friend more than that of a casual passer-by. And Shakespeare is the governor of a great realm; he is a friend. Reading many poems by the same man must build up, for any one of them, effects of cumulative complexity. I think they are unavoidable. And I do not see what is to be gained, unless we feel that a critic should be as dispassionate as a crystallographer, by trying to rule them out.

DAN: In one sense we have already ceased to consider it as an absolute poem when we talk about the sonnet as the 146th.

MR. RANSOM: Exactly. And in one legitimate sense this sonnet should be considered in its place in the sequence. The sonnets may not be in an order which is absolutely correct but no one can deny that they are related and that they do show some development, some "story," even if incomplete and unsatisfactory. Parallels in thought and phraseology have been found between the sonnets and such early plays as *Romeo and Juliet* and *Richard II*. It is hard, therefore, not to read this poem biographically, not to be aware of its relation to Shakespeare's career as a man and an artist. When speculations are not carried far into fantasy it is natural and just to assume a personal and quite simple background for the sonnet.

But if I were making a complete analysis of the poem I would start with technical remarks on meter and form. Such considerations as the relation of the rhyme structure to the thought structure, and comparisons with the ideals and practices of other sonneteers, would place this sonnet technically.

The concrete details of the sonnet, I believe, might next be considered in themselves. I find in myself a tendency to take the images literally and seriously, to visualize them as completely as possible, as if they existed independent of whatever they may be intended to symbolize. I go through the poem, then, seeing "center" as perhaps the capital city of England and

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"rebel powers" as English barons at the beginning of the 15th century. Or I pause on the word "array" to think of its connections with decoration and painting. "Array" is a transitive verb and its use here is ambiguous. The rebel powers can array, or marshal, only their own troops—not the troops of the opposing soul. The word is doing double duty, then, even in its grammatical sense: it suggests drawing up one's own battalions and also fighting against enemy forces.

Shakespeare is the most inaccurate of all poets—the boldest—in his locutions. He secures his effects through this slashing carelessness of grammatical logic. "Costly gay" in the fourth line is grammatically loose. Here the adjective "costly" is used with adverbial force in a phrase which we accept as vivid, which we respond to easily, but which we could explain precisely and logically only after considerable head-scratching. Shakespeare does not bother with precise coordination in his figures: he is perfectly willing to balance "fed" against "rich" though they are drawn from two different fields of imagery. In comparison with the Metaphysical Poets (although a few of the figures in the sonnet are metaphysical in character), Shakespeare uses more figures and does not develop them so fully or consistently. This is a descriptive statement—not a judgment of the superiority or inferiority of one technique to the other. Full and consistent development of an image is not necessarily a mark of good poetry. To take an example: Donne's sonnet, "Death, be not proud," which you mentioned, Ben, has always struck me as absurd. Donne sets up a figure, a metaphor, proceeds to go through an argument and as a result of the argument—which applies in reality only to the figure—calmly informs death that it's dead.

Miss Drew: You mean that a poet is constantly in danger of confusing his images and his ideas?

Dan: Or that he runs the risk, through a false parallel, of transferring a just deduction in his imagery into an asinine conclusion to his thought?

Mr. Ransom: To phrase it in still a third way, I mean that

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a poem that is highly figurative—almost pure vehicle, or texture, or images—is always near absurdity and may easily fall into quaintness. The quaintness arises because an exact parallel between a completely developed image and a completely developed thought, between vehicle and tenor, can rarely be made.

Reading the poem with a vivid attention to the images, as I try to do, actually makes parts of it shocking. Lines seven, eight and thirteen are cannibalistic. Is the cannibalism softened, or heightened through contrast, by the adroitly interjected phrase "inheritors of this excess"? Taken literally, the notions in these lines are horrid and to me very painful. The gruesomeness of the idea does not frighten Shakespeare into blurring it though I think he sensed it more sharply than does the casual reader.

Miss Drew: I shall be afraid to go to sleep tonight, Mr. Ransom, if you don't stop frightening us with worms and cannibals.

Mr. Ransom: Perhaps, then, I should turn from the vehicle to the tenor. I am struck by the fact that the divine terms which the soul buys are not particularly Christian: there are few words in the poem that would directly indicate conventional religious dogma. Rather, in the notion that the soul is a mere tenant of the body, a prince who has fallen to the condition of a sentinel in the world's garrison, a stranger coming from another realm, the sonnet seems in spirit to be Platonic.

Dan: As we seem to be in this evening's talk.

Ben: I am afraid we are merely the shadows on the wall of the cave.

Mr. Ransom: At any rate in Shakespeare's Platonic monologue he returns, in the thought of the final couplet, to the realm of Ideas and the poem ends on a note of permanence and assurance, an easy and quiet close.

Miss Drew: I would agree that the poem is not essentially Christian but I do not find it quiet or easy.

Mr. Ransom: I was speaking only of the logical structure of the argument. The underlying emotion of the whole, or the unrest which caused him to write it, may have been something

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quite different from its argument. I can imagine that out of shame at his own life and his own instincts he is here trying to kick his own body around and mortify it. This may be an ugly idea but the Elizabethans at times could be ugly.

DAN: I wonder whether we have decided anything. Perhaps each of us simply created Shakespeare in his own image.

MR. RANSOM: Your relativity goes too far, Dan. If your pessimism were justified, then anyone trying to reconstruct this evening could set down only his own rumination and our various opinions would all be traduced.

DAN: And that's a possibility, too.

MR. RANSOM: Actually, I feel that we have agreed on more points than one. Perhaps we might call such agreement: Shakespeare's sonnet.

MISS DREW: If we continue to agree, however, we may end by deciding that the same person is able both to write poetry and to criticize it and that the foundations of the poetic and critical arts are essentially the same. Besides, Ben has closed his book most decisively and Don has fallen asleep on the window-seat and has heard, I do believe, not a word that we have said.

So they woke me and we carefully put all the extinct cigar butts in the fireplace. Elizabeth and Mr. Ransom and I said goodnight to Dan and Ben and, talking, walked up the hill across the starlit earth to the weatherworn cottages where we were staying. In the morning we all rose and washed and (as if there had never been such an evening at all) went to breakfast at Bread Loaf Inn and spent the day in our accustomed manners.

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What Next in Printing?

DAVID T. POTTINGER

FILTERING in among the war dispatches from the Russian front comes the announcement that *Izvestia*, the Soviet newspaper, is now printed on a twenty-four cylinder rotary press capable of turning out 1,200,000 eight-page newspapers *every hour*. This huge machine is 315 feet long, 26 feet wide and 19 feet high. My mathematical readers may be amused to calculate how many 18th-century presses (each seven feet long, three feet wide and seven feet high) might be included in this modern giant. Other readers may be content to accept it as a symbol of the strides recently taken by printing. This development, which is all the more astonishing when we recall that it has been accomplished within a few decades, rests upon the work of a multitude of public and private laboratories in every part of the world that have been applying the results of physics and chemistry to the task of securing greater speed, closer precision, lower costs and finer quality.

The casual observer might well think that the limits of printing technology had been, or soon would be, reached. Verisimilitude, for instance, has been carried to such a fine point that as you look at an advertising folder you no longer need to worry about how your yeast-powder biscuits will—or may—turn out; there they are in all their golden fluffiness resting on a transparent light-green plate. Or you catch yourself speaking to the charming women and the bronze-chested men who surround you in the full color image of yourself reclining in the latest swim suit on the sands at Miami. Imagination plays no part in such advertising; the printing press has given you all but reality.

In the matter of speed, however, we are far from content. Time is of the essence in the offices of our great metropolitan

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dailies and of our weekly magazines. If the public is to get the news while it is new there must be a minimum time lag between the event and the moment an account of it is placed before a reader's eye. Writing the story, setting the copy in type, preparing the press and running off an edition of two or three million is a question of hours, not of days or weeks. It has become so much a matter of course for *Life*, *Time* and *Newsweek* as well as our large city newspapers to appear on an unbroken schedule with absolutely fresh information that we forget the mountainous difficulties overcome not only by editors but by printers. And the printers would be helpless if there were not, behind them, continuous research into the color, brightness, gloss, opacity and smoothness of paper; into the covering power, the viscosity and the adhesiveness of ink; into the temperature and humidity of press rooms, the stresses and strains of metal revolving at high speeds; and into hundreds of other chemical and mechanical problems. Nothing can be left to the fallibility of human judgment; standards must be set and maintained for paper and ink, machinery must be adjusted to absolute precision so that there will be no interruptions between the steady rolling of paper into one end of the machine and the equally steady disgorging of printed, folded, bound, wrapped and addressed units at the other end.

Although speed and quality are the objectives of a great multitude of researches, countless others are under way. In the small but important matter of drying the ink, for instance, a thin film of wax sprayed over the sheets of paper as they leave the press has made it possible to print the reverse side without delay. Experiments with heat units and hot drum units point the way to fast and efficient drying of sheets containing illustrations. Then again, there are constant improvements in making all kinds of plates for the reproduction of pictures and illustrations. Furthermore the electrotype method of producing duplicate plates will soon have a serious rival in synthetic resins or plastics, of which bakelite is the most familiar common example. These plastics provide accurate replicas, are resistant

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to wear and have certain desirable elastic properties. The United States government is now sending to South America a good deal of pictorial publicity that makes use of such plates. Another plastic, which can be melted and poured into a mold, may spell the doom of type metal which has been for five centuries an amalgam of lead, tin and antimony. This plastic has a specific gravity one tenth that of type metal and is not affected by the usual solvents, alkaline type washes or humidity. It has already been used for hand type and will soon be adapted for use in composing machines. Finally a patent covering the manufacture of type from nylon, an unexpected and almost fantastic development, has recently been granted to the du Ponts. With lighter type it will be possible to construct lighter presses which will run at greater speeds.

Dispensing with type metal may seem to most people a body blow to traditional methods but we may yet come to the astounding situation where the fundamental element in all printing—the impression of an inked surface against a sheet of paper—will be unnecessary. William A. Huebner, one of the leading inventors in the field, has been working with considerable success on a machine that prints by "electrical attraction." The principle is much the same as that used in propelling a trolley car, where the trolley is charged with one kind of electricity and the rails with another. The printing surface, whether type or plates, is made one electrical pole and the impression cylinder that carries the paper the other. After the form is inked the paper is brought down by the cylinder to about an eighth of an inch from the type; electrical attraction then forces the ink to jump the gap. More marvelous still, another expert suggests a reversal of the theory of the X-ray. He opens up a possibility that instead of recording on a photographic plate what is in a pile of paper, we may record on the paper any design on metal or any arrangement of type placed beneath the stack of paper. Thus without much of our present costly equipment and labor we could print a thousand sheets in the twinkling of an eye.

Electrical and radioactive processes, however, are matters

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for future development. At the moment printing traditions are meeting very real and very stiff competition from the departments of chemistry included in the general category of photography. The application of photographic methods to printing, although fairly recent, is based upon certain older manual processes.

The oldest of these gave us the beautiful woodcuts and initials seen in early printed books and at a later date the incomparable illustrations of Bewick. The background is cut away and the area to be inked and printed stands in relief. The result is a piece of wood or of metal exactly comparable to a piece of type and, as such, susceptible of being printed as part of a page otherwise made up of type. The appropriate press is one that transfers the ink to the paper by pressure on the raised or relief design. This is relief or letterpress printing.

About fifty years ago the making of relief plates became mechanical or photographic. In the line-cut a zinc or copper plate is covered with a sensitized emulsion. The design is photographically transferred to the plate which is then put in an acid bath that eats away, or etches, the background areas not stopped out by the black lines resulting from the photographic negative. This method can be used only when the original consists of lines sharply defined against the contrasting background. On the other hand the ordinary picture, made up of a series of areas in perspective, requires a different treatment known as the half-tone process. The original is photographed through a screen crossed at right angles by a series of fine lines. This breaks up the image into a succession of dots, the larger representing the dark portions and the smaller representing the high lights. The dotted negative is printed onto a sensitized copper plate, the interstices between the dots are etched out and a relief plate is secured. When the original is colored the use of color filters in the camera provides a series of plates which may be printed successively over one another in yellow, red and blue with a final one in black; the result is a reproduction that in its colors and shadows is remarkably close to the original.

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What Next in Printing?

With the development of color photography during the past few years a bewildering number of improvements have taken place in colored half-tone work. These improvements, strictly chemical in nature, include such details as methods of making negatives, the etching process, an exact system of color notation and so on. When color television comes—as it probably will within a few years—it will be possible for a printer in New York to make a faithful colored print of a garden in New Mexico without ever having seen the original or a colored photograph of it. And our beautiful art magazines will be able to show their readers perfect reproductions from the latest exhibition in London within twenty-four hours of the opening.

Intaglio is the direct opposite of letterpress or relief printing. Here the portions carrying the design, and therefore the ink, are below the surface. Line engravings, etchings and mezzotints are classic examples; the once necessary visiting card is an everyday relative. The plate is rolled with ink and then wiped off, leaving the surface clean. A special kind of press is used and the ink is drawn out of the depressions that make up the design. Large-scale application of this principle came through a process invented about thirty years ago and generally called rotogravure. A design, a picture or a page of text matter is transferred photographically and etched onto a copper cylinder; this revolves in a trough of ink, the superfluous ink is removed from the surface by a scraper known as a "doctor knife" and the impression is made on a web of paper running between the plate cylinder and an impression cylinder. The largest use of the process is for printing the pictorial and magazine sections of Sunday newspapers. The *New York Times* "Book Review" is printed in this way. Every detail in rotogravure, including color, is the subject of constant improvement but newspaper work and certain obviously related departments of advertising seem at present to represent the limits of its usefulness.

In letterpress the image to be printed is raised *above* the surface of the metal base; in rotogravure it is etched *beneath* the surface. There is a third method, planography, in which the

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image is *on* the surface. Here it is that photography is now finding its most congenial application to the printing industry.

Planography was discovered in 1796 by Aloys Senefelder who found that if he drew with a greasy substance on a certain kind of smooth stone common in Bavaria and Austria the treated portion of the stone attracted ink. A very simple press provided the means for transferring the inked image to paper. Stone-printing, or lithography as it was later called, immediately became popular because with it an artist could work more simply and directly than in any of the engraving processes. About 1900 it was discovered that a mechanically roughened plate of zinc or aluminum could be used as successfully as the lithographic stone. Not only were these plates cheaper and more manageable but they could be curved for use on rotary presses, which are faster and more accurate than the flat-bed presses common to relief printing. Then within the next few years the use of photography for making the printing image eliminated the expensive handwork of the individual artist.

An even greater improvement in this process has been the development of the offset press. This employs three essential cylinders: the first carries the planographic plate, which is dampened by the water rollers and then inked by the inking rollers; the second is covered with a rubber blanket onto which the plate is printed; the third, the impression cylinder, carries the paper, to which the print is transferred or "set off" from the rubber blanket. The blanket introduces two advantages: first, it speeds production and reduces costs by eliminating certain long and intricate adjustments ("make-ready") that are necessary for every job run on a letter press; second, it enables the printer to use a wide variety of papers for half-tone work whereas on a relief press he is limited to expensive coated papers.

The principle of the offset press has been rapidly adapted to various small machines that are really to be classed as office appliances. One of these is the Multilith which turns out office forms, short pamphlets, posters and the like. The Harvard College Library has lately used it with much success in reproducing

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the *Short Title Catalogue* on sets of index cards to the great convenience of librarians and students.

One of the most attractive features of offset work is the comparative ease and cheapness with which material may be prepared for running on the press. It is not necessary to set the copy first in type, for good results can be had from ordinary careful typewriting. When there is a large amount of work or when a high degree of excellence is called for it is best to use the Varityper or one of the numerous typewriters with electric control. These ensure an even impression and have devices for justifying the lines—that is, for spacing out the lines so that the right-hand as well as the left-hand margin is straight.

All these considerations have, however, led to many extravagant and unfounded expectations. Some of my readers will particularly remember the very ingenious ideas the late Robert C. Binkley worked out for the production of small editions of theses, reports and books. He was guilty, however, of several fallacies. For one thing he overlooked the cost of preparing copy. If an author does this himself he has actually consumed time even though he may not pay himself the equivalent in money. If he hires an expert stenographer the cost is almost as great as for an expert linotype operator. Again, Mr. Binkley did not give enough weight to the offset printer's advantage in being forced by the nature of his process to demand copy that is absolutely perfect and on which he allows no one to enter proof corrections. He is thus able to eliminate the expensive factors of delay in submitting proofs and of corrections and additions in proof. There would be surprisingly little difference in cost between an offset job and a letterpress job if in the latter case the author gave his printer as good copy as he must give the lithographer and thereafter saw nothing whatever of the work until the bound copies of his book were presented to him.

In other words, offset printing does not offer an immediate solution of the greatest problem that printing has always faced —the satisfactory and profitable handling of the work that goes on in a shop from the time an author hands in his manuscript

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up to the moment when the wheels of the press begin to turn. The belief that the printer loses money in the composing room, where the type is set, and makes money in the pressroom is old and well-founded.

Can any further help be found in photography, which has already accomplished so many wonders? If we are to print by offset why do we need to go to all the trouble and expense of setting type in the traditional fashion only to throw it away when we have taken proofs suitable for making the necessary plates? Well, perhaps we may not need to do so if several recent inventions attain the success they seem destined for.

The first, the Rutherford Photo Lettering Machine, put on the market in 1935, is doing some remarkable advertising work but is not yet suitable for books. An artist or typographer must arrange the proposed page in rough form on a separate piece of equipment known as the Projection Layout Device but the operator himself does not require any particular skill such as a knowledge of typewriting or of typesetting. In place of type the machine uses master alphabets. These are glass plates of transparent letters which fit into the machine and slide back and forth, bringing one letter after another into focus over a small camera. As each letter comes into position it is photographed on film, dry plate, or sensitized paper which is afterwards developed and used for preparing the offset plate. Over 250 different styles of master alphabets are now available, each in three sizes. By changing the focus of the camera the machine will expand letters, stipple them, screen them, overlap them, shade them, slant them to the right or to the left, extend the width without changing the height or increase the height without altering the width. With only one size of one master alphabet plate it is possible to get reproductions in 25 different sizes and six variable distortions in each size, and the varieties can be multiplied by the use of screens and shade plates. In the darkroom, positive originals may be reversed or half reversed by means of a contact frame. Backgrounds, textile patterns, borders and other repeated designs are easily handled. The justification

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of lines and the letter-spacing are automatic. The speed of production is said to be six times faster than other methods. The results compare most favorably with work done by offset presses from the best type originals.

In 1930 Edmund Uher, a Budapest engineer, introduced a machine called the Uhertype. This consists of three units. The first is an automatic typewriter keyboard. Striking the key sets in motion a mechanism which photographically prints the letter on a ribbon of sensitized film and also registers the amount of spacing needed to justify the line. After the ribbon is developed it is placed in a second unit, the Metteur or make-up machine, which justifies the lines and enables the operator to make corrections. The third unit is for display setting such as chapter headings. Although one of the largest establishments in England installed a complete set of equipment in 1937 the Uhertype people decided to defer development of the machine and of course there has been no news of it since the outbreak of the war.

A better integrated and in many ways more practical machine is the Orotype, which one English authority considers "the most important contribution that has yet been made to the solution of the problem of type-setting without metal." It was introduced in 1936 by Dr. Max Ullman of Switzerland. In general appearance it looks like a linotype but a film-printing apparatus replaces the metal-pot and the casting system. A line of raised characters is assembled by striking the keys on the keyboard. This line is then printed on a roll of cellophane, on the front by direct contact and on the back, in reverse, by offset. The two impressions coincide exactly and are printed simultaneously. Space between the lines is adjustable. The result is a positive film which can be used for making either offset plates or gravure plates. Maximum production is 14,000 characters per hour, a rate that is at least equal to that of the linotype. Corrections are easily made by wiping out defective lines with benzine and inserting the alterations on the cleaned film, a process comparable to making linotype corrections. A four-page

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specimen of Orotype production included in a British publication three or four years ago indicates a remarkably high quality of work.

A somewhat similar apparatus not yet on the market though much talked about is the Friedman-Bloom machine. There is the usual keyboard for assembling a line of characters but in this case they are photographically recorded on a roll of sensitized film by a sort of motion-picture camera placed about in the position ordinarily occupied by the casting box on the linotype. A series of justified type lines is formed on a photographic film which is then developed and used for platemaking. The image may be either positive or negative as the operator desires, his choice depending on the nature of the characters on the matrices he uses for the job in hand.

There are at least two other machines—the Omega in this country and the Westover in England—that should also be mentioned for the skill and ingenuity with which their inventors have approached the problem. Enough has been said, however, to indicate how widespread and vigorous is the interest in typeless composition and how near we are to the day when it will be commercially possible.

When that day comes, will all the monotype and linotype machines be thrown into the scrap heap along with all the relief printing presses? Is the day of the machine over and the day of chemistry beginning? Will the glare of flashlights, the stink of developing acids and the ghostly redness of the darkroom supplant the clean fragrance of printer's ink and the subdued clatter of the old-fashioned composing room? If typeless composition and pressureless printing can be combined, what is left of Gutenberg's invention that has served humanity so well for five centuries?

The prospect may well seem gloomy and terrifying to anyone who appreciates the comfort derived from traditional, familiar ways of doing things. On the other hand the profoundest truth of our times is that the future—and even present survival—is

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for those who can adapt themselves quickly and easily to change. We are no worse off than the people of the 15th century who saw their ancient system of scribes, scriptoria and calligraphy wiped out within a few decades by the irresistible power of the printing press. The world soon forgot that devastating economic upheaval and it will have no longer memory for the attempts of our entrenched printers to perpetuate industrial details that do not conform to contemporary demands. It has even been suggested that photoprinting will develop letter-forms more suitable to its technique than those we have inherited from the Italian type designers of the early 16th century. But we must remember that these in turn were a far cry from the hand-written characters of the then traditional book. The book of 1990 may be—in appearance as well as in technique of manufacture—as different from the book of 1940 as the book of 1490 was from the book of 1440. We shall adapt ourselves to it as easily as we have within the past fifty years adapted ourselves to the automobile, the radio and mechanical typesetting. Like them it will come gradually, unobtrusively; today's wonder, tomorrow's commonplace. At the same time all the institutions, such as libraries, schools and colleges, that are dependent upon books will be more or less influenced ————

At this point it is well to recall that we know in part and we prophesy in part and that the fate of prophecies is that they shall be done away. We recall too that one of the most ineradicable traits of human nature is its delight in craftsmanship, the joy of making things in their entirety by the exertion of one's own skill. Calligraphy, as an institutional industry, may be dead but it lives as an art; and by the same token the craftsmanship of Gutenburg, Caslon, Updike and Rogers is not likely to perish completely. In fact it is conceivable that the world of tomorrow will be built upon a natural revulsion of human beings from speed, bigness and mechanism. Then the work of mere communication will possibly be handed over to other agencies, while printing as an art and a craft will minister to the higher needs of a simpler and better society.

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The Outlook for Democracy in Argentina

J. FRED RIPPY

ACCORDING to the tenets of Jeffersonian theory, Argentina's natural resources would seem, at least to all except the most careful observers, to be admirably adapted to the building of a democratic commonwealth. The Pampa is one of the best regions in the world for farming, 67 per cent of a national domain of nearly 700,000,000 acres (an area larger than the United States east of the Mississippi) is well suited to agriculture or grazing, while another 18 per cent is forested. The absence of coal and iron and the scarcity of industrial minerals of almost every kind might be expected to discourage those decidedly industrial trends which Jefferson viewed as a possible menace to popular government. And yet, after more than a century of independence, Argentina is under the dominance of an undemocratic coterie headed by Ramón S. Castillo.

Why? Fundamentally because neither the local nor the international environment has been propitious for the development of genuine democracy in Argentina. No Argentine statesmen with the disposition and the power to lay the economic foundations of democracy have arisen. Nobody in Argentina has ever tried seriously to create a nation of small, independent farmers. Argentine liberal thinkers have merely toyed with democratic ideas. Their liberalism has had no economic content. At bottom they have lacked respect for the manual toil required by an agricultural and pastoral economy. They have lived in the towns and cities and drawn their wealth and sustenance from immense rural holdings made profitable by the labor of native gauchos and poor immigrants. They have

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appreciated their rural estates because they furnished them an easy living—city comforts and opportunities for education and travel; but they have had no genuine love for the soil and country life. The Spanish *latifundia*, the big estate, became the Argentine ideal and the Argentine practice. As the Indians were absorbed, expelled, exterminated, their lands were presented in huge tracts to army officers and politicians; they were not divided into small farms and distributed among the common people.

It is not likely that small, independent farmers would have survived in Argentina even had they ever existed. The times were not favorable. Industrialization was advancing rapidly in Europe, and European industry demanded that Argentines adopt commercialized agriculture and stockraising, a demand reinforced by technological inventions. The large mechanized unit was more efficient than the small farm; the new agricultural implements—gang plows, mowers, reapers, binders, cultivators, tractors—were too expensive for the little man. And the same was true of stockraising. The little fellow was less efficient; he could not afford to pay the cost of blooded animals, barbed-wire fence, deep wells and steel windmills. Thus world forces as well as local predispositions supported vast commercial enterprises designed mainly to produce meat and bread for foreign markets or for the rapidly growing Argentine urban centers where 74 per cent of the nation's population was concentrated by 1938. As a factor in Argentine politics, subsistence farming, or farming pursued primarily as a way of life and producing only enough of a surplus to provide means for education and a bit of leisure and travel, never gained significance. A few little men were left on the poor lands or were pushed out to the receding arid frontier where further progress toward the west, as independent farmers, was halted by vast irrigation projects constructed by the government or private corporations.

By the 1930's some twenty or twenty-five thousand Argentine families owned nearly all the best lands in the country.

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At that time and for several decades previously they employed great crews of hired hands to look after their animals and crops. In the recent past a large part of their workers consisted of migratory laborers from Europe, "swallows" who crossed over merely for the harvest season on the Pampa and returned when it ended. The small farmers eked out a living on the marginal lands or grew sugar cane, fruits, and vegetables in the irrigated sections where they depended upon the government or private corporations for life-giving water and for refineries or wineries. In his philosophy regarding the relationship between agriculture and democracy Jefferson failed to take account of plains, arid lands and mechanization.

The forests, too, have fallen into the hands of the wealthy few. They are located in the remote tropical and subtropical North, where the climate is hot and unhealthful. The trees most in demand, moreover, have been those which furnished tanning materials for the leather industry—the *quebrachos*. Argentine lumbering is a large-scale industry carried on by native and foreign corporations.

Other types of industry have developed in spite of natural handicaps. World conditions following 1914 tended to compel industrialization. The supply of manufactured products from abroad was frequently uncertain and scanty and nations eager to build up self-sufficiency in foods often erected tariff barriers against the commodities the Argentines must sell if they were to buy what they required from abroad. By 1939 nearly 664,000 workers were employed in Argentina's light industries. Workers on the farms and ranches numbered only a little more than a million at that time. The rest of the nation's population, about thirteen million in all, either toiled in the towns and cities or lived by the labor of others. The middle class, consisting mainly of urban small merchants and members of the professions, was not large.

Rural wages were low. Those in the mercantile establishments and the humble government posts were a little higher. The best wages were received by the skilled workers in the

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packing houses, the factories and the railway shops. But the income of the best-paid laborers barely maintained their rather large families at the subsistence level. Educational opportunities had expanded so greatly since the 1860's and 1870's that 65 per cent of the population over eight years of age could read and write; but the rural and small-town schools were deficient and illiteracy ran as high as 60 per cent in many sections of the country.

Practically all of the industries of Argentina, which even in the 30's consisted of rather small units, were owned by five thousand families. Add these to the twenty-five thousand big landholding families and we arrive at a total of thirty thousand wealthy families that, along with a few foreign corporations, own practically all the nation's property. With ownership so highly concentrated and with only a small midde class it seems almost idle to talk of government of the people, by the people and for the people in Argentina.

The nation has had comparatively few free and fair elections during the hundred years or so since it won its independence from Spain. But confronted with this concentration of wealth democracy could hardly be effective even if the ballots were freely cast and scrupulously counted. The masses lack funds for electoral campaigns. In the main the candidates are selected by the rich and their professional allies. The people can only choose between the agents and representatives of the small minority who control the means of production; rarely do they have the opportunity to place one of their own champions in office.

More drastic means of effecting social transformation are becoming very hazardous, perhaps even impossible. Those who own Argentina's farms, ranches, factories and banks also own its radio systems and control its armies. Radio broadcasting stations, armored tanks and bombing planes are not instruments of the masses. The poor cannot afford them nor can they easily seize them. Such technological devices may mean the end

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of social change by means of mass revolt. Until the wealthy few become more unselfish or more enlightened in their selfishness, and until the middle class becomes far more numerous, democracy would seem to have little chance in Argentina. Yet a miracle might happen. Able members of the aristocracy might become more democratic and humane. They have shown such tendencies in the past—in the 1820's and 1850's and during the early 1900's. Or a majority of the army and the air force might refuse to fire on the people; they might even join the people. Such things have occurred elsewhere. Until they occur in Argentina the Jeffersonian and the Lincolnian ideal, the democratic ideal, is not likely to be realized in one of the most important nations of Latin America.[1]

[1]Several works adequate for the understanding of Argentine political and economic history are available in the English language: Austin F. Macdonald, *The Government of the Argentine Republic;* Ricardo Levene, *A History of Argentina* (translated by W. S. Robertson); F. A. Kirkpatrick, *A History of the Argentine Republic;* J. Fred Rippy, "Argentina," in *Argentina, Brazil, and Chile since Independence* (A. Curtis Wilgus, Ed.)

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Man's Art and Man's Fortune

WALTER ABELL

THE fate of democracy in the modern world depends upon far more than military force. It depends to an important degree upon the integrity of democratic social and cultural institutions. We of the intellectual world have a special duty to perform in serving as guardians of that integrity. In war as in peace we must focus upon democratic life the clear light of critical inspection and bring to national consciousness whatever problems our inspection may reveal. One such problem forms the subject of the present essay: the problem of the part that art should play in a democratic society and the degree to which democratic needs are met by recent artistic manifestations in the United States.

Democracy is so vital a concern at the present moment that we might be inclined to regard its relationship to art a thing exclusively of the present and future. Actually it has a long past. The underlying social pattern of art for the enrichment of community living—which we may take to be the democratic concept of art—is as old as humanity itself. As a background for contemporary developments, let us glance back at a few of its earlier manifestations.

We see the pattern of communal culture already well established in many primitive societies. Observe it for instance among the Eskimos. Their fur garments, sewn and ornamented with a skill we still admire in our museums today, were the protection and the pride of all and not the luxury of a few. Their architecture all men shared. There was in Eskimo society the equivalent neither of palace nor of slum. There were shelters, approximately equal for all. The only larger structure ever undertaken was the dance hall on which all men worked together and in which the community as a whole participated

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in its dance festivals. And in those festivals, merging the delights of legend, song and dance, of mask and costume, the community found communal artistic expression, enjoyed as a group the celebration of group life.

The pattern of art in a democracy was there in all its essential lines. And there can be no doubt that it was a soundly human pattern. Through it life brought to art the basic stuff of human existence and art to life the most practical and gracious form which it lay within human power to achieve under the given circumstances. Usefulness, beauty and the spell of imaginative conception flowed through the social organism like a vital essence in its blood, making men prouder of their human portion, dearer to each other and more effective in their pursuit of common necessities. In such primitive cultures a great motif of human experience was announced to the world in the clarity of its basic form and stood ready for future development.

In a somewhat more elaborate context we see that motif reappear in the folk arts of the world: such arts, let us say, as those of peasant Europe. The typical forms of peasant art are too well known and too well loved to require discussion here. We need only recall that they were arts of, for and by the people. No peasant community in Europe but had some of them among its traditions; no peasant family that did not share in their creation and participate in their use. Among these millions of the human race, life again demonstrated its capacity to achieve appropriate forms of art, and art its power to enrich and humanize life—and this despite the fact that the peasants were toilers of society, bearing the burden of material support not only for themselves but for the social superstructure that rested upon them.

In the history of states and empires, life and art alike become more complex and the motif of their harmonious social intermingling is not so easy to trace. In the first two civilizations of the ancient Western world, those of Egypt and Mesopotamia, we see the rise of powerful ruling classes, priestly and monar-

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chical; classes which gained control of life and with it art. Palaces and royal tombs, replete with treasures, became the artistic order of the day. Charged with the power of larger social organisms, art achieved new and more imposing conquests but they were for the few rather than the many. Thus was announced, with all the blare of brass, the contrasting theme of man's cultural symphony. History is an interweaving, a counterstriving, of these two motifs: the autocratic and the democratic.

The democratic motif emerged again with striking effect in Greece. Temples were civic monuments, not the fear-inspiring prerogative of a priestly order. The city as a whole could participate in a Panathenaic festival, sending its processions to an Acropolis in which all felt something of the pride and assurance of shared possession. The masterpieces of Greek sculpture and painting were not secluded in palaces or forbidden sanctuaries and happily the "collecting" of art was still a thing unknown and unnecessary. In frieze and pediment the sculptor showed his triumph to mankind. On the walls of temple, gateway and market square the painter spread his art, spurred to his keenest effort by public demand, by public criticism and, in his successes, by public enthusiasm. Thus for a brief but brilliant period Greece restored to the world the pattern of communal culture.

This is not the place to present a survey of the relation of art to human societies. Suffice it to note in passing that many of the greatest epochs in the history of art have involved definite aspects of cultural democracy. To cite one more example, the wave of Gothic building that left Europe cathedral-studded in its wake was a wave of communal feeling. Two great streams of social consciousness, Christianity and the new freedom of the towns, had met and coalesced. The result was a fusion of the energies of society behind creative projects in which all could share and by which all were enriched.

If, in the Renaissance, we see communal impulse gradually supplanted by the "patronage" of private control, this does not mean that Renaissance art derived its major force from such

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patronage. The Renaissance was an epoch of transition. Much that was splendid in its art was a momentum from the declining democratic culture of the Gothic era rather than a fresh release of power inspired by the new social, or anti-social, trends. The larger number of the great frescoes (from the walls of the Arena Chapel to the Sistine vault) were still in the Church. Either they were public heritage as of yore; or in the increasingly important private and papal chapels they were a continuance of public tradition imperceptibly falling into private control. The life and art of Michelangelo attest to the unrest such control could arouse in the sensitive humanitarian soul. And that Julius II could not carry through the project for his tomb when countless medieval towns had completed their cathedrals indicates how much less drive and continuity and staying power the private project possesses than does the communal one.

With the emergence of modern democracy in the 18th century it would seem that the hour for the perfect flowering of democratic culture had at last arrived. Now should it be possible to sound the basic motif in its full integrity but with a new splendor born of the power of larger and better equipped societies. In America particularly might this dream be realized for here, in addition to the new political freedom, a virgin continent lay ready to receive the impress and sustain the efforts of the new society. Never had a nation been granted a more magnificent cultural opportunity.

America today should be that opportunity fulfilled. To what degree is it so? The observer who surveys our national scene with an uncompromising eye finds democratic cultural features to be sure—and we shall recur to some of them later—but he also finds much that is far from democracy, far from art and far from any union of the two. Cities are architectural jumbles almost untouched by the harmonizing effect of intelligent city planning. So much is this the case that if, in some bold experiment, as many as two city blocks are coordinated with each other

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and humanized with fountains, sculpture and refreshing verdure, as was done at Rockefeller Center, the spot becomes a show place of the nation. Jerry-built, goose-stepped suburbs and industrial towns are never far to seek. Worse, there are slums, "one third of the nation" living in them under conditions that are an affront to both democracy and art.

Inside the homes of the people conditions are no better. The 40,000,000 slum dwellers live with possessions degradingly sub-art in character. The average middle-class interior at best is mediocre. It lacks the character displayed by many peasant interiors and even by certain primitive ones. Most of the household articles are indifferent in design, some shoddy in construction. Pictures are usually limited to reproductions. Original works of art are, in fact, looked upon by the average American with a certain awe, as objects foreign to his normal experience.

Obviously the services of art to American life have been much less widespread, hence much less democratic, than our ideals would prompt us to desire. If one asks why this is so in the most powerful of modern democracies, various possible answers suggest themselves. It might be assumed that the conquest of the new continent had absorbed the energies of the nation to such an extent that provision for its artistic needs had thus far been impossible. Reflection at once discredits such an explanation. It was precisely during our colonial period, when the wilderness was least subdued and the conditions of life most exacting, that some of our healthiest and most democratic art was produced; and we have already noted that physical toil has not prevented peasant and even primitive societies from producing appropriate and widely diffused forms of art.

Are we, then, artistically a barren people? Have we no artists capable of meeting our artistic needs? The facts prove otherwise. Announce a competition for a housing project and a hundred architects will offer plans, all better than the tenements to be replaced. Seek murals and sculpture for public buildings and there will be a flood of competing entries, the larger portion of them worthy of use, the best possessed of enduring signifi-

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cance. There is no artistic problem facing America today which scores of trained and gifted artists could not competently solve. But the fact develops, when we study the situation, that the American artist has been given relatively little opportunity to use his gifts in the service of the nation. American studios are stacked with work for which the artists can find no outlet, while large numbers of the artists themselves endure the hardship and frustration of chronic unemployment.

In the light of the circumstances thus far reviewed it would be natural to suppose that the country had spent little or no money on art. Once more the facts confound us. The same generation that countenanced the growing confusion of our cities, the degenerate architecture of our slums, the distress of so many of our artists, spent billions of dollars on art. According to an estimate issued by the American Art Dealers Association, sales of "imported works of art" in the United States during 1929 alone totalled $250,000,000. One per cent of such a sum would have provided generous fellowships for more than 1000 living artists. Any considerable fraction of it, invested annually in town planning, public murals, works of art and craft for home decoration, could have changed the face of America.

It seems necessary, then, to recognize a situation in which vast sums are spent on art yet in which artists languish and community culture lags. Such a situation cannot be other than humiliating to those of democratic faith. How are we to account for this distressing cultural failure of modern democracy? The answer to this question must be sought outside the realm of art itself; outside the realm of democratic impulse as well. It lies in the sphere of industrial and economic organization and involves two major aspects of the social history of recent times: the shock to cultural traditions caused by the first impact of the industrial revolution, and the social maladjustments resulting from extreme concentration of wealth.

The industrial revolution was indeed a revolution in the two-edged sense of the term. It ushered in momentous positive developments. It also shattered relationships between art and life

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which had been slowly perfected during 6000 years of handicraft economy. Its techniques were too new and complicated to produce at once an art of their own. At the same time they rendered obsolete the art of the craftsman, hurling him and his time-honored associate, the artist, into the chaos of a disrupted order. The craftsman, if he were to continue productive activity at all, must do so as the servant of the factory system, losing his creative independence in the process. The artist, persisting in creative effort, found himself largely excluded both from the discipline and from the rewards of the new order. For a century he was left to grope his way in a society with which he had no organic connection, cultivating, in wistful or disgruntled isolation, his individual preoccupations.

The superiority of the industrial order lay in the ease of production which could make possible a new abundance of worldly goods and a new leisure. Had these benefits been widely shared, the social advantages of the system would have been manifest and its temporary artistic limitations but one of those formative lulls of which the history of art shows many. But the new wealth stream, instead of coursing freely through the social organism, was drained increasingly into reservoirs subject to the control of a limited group. Within the economic sphere, heedless of democratic ideals and often flouting or usurping political control, autocracy reared its head to confront us once more with its familiar contrasts of poverty and riches—of unfulfilled human need and unused material surplus. According to the report on consumer incomes issued in 1938 by the National Resources Committee, nearly half the American people live at annual income levels ranging from "under $250" to $1,000. Less than 7 per cent receive incomes of $3,000 or more. But within a small fraction of the top one per cent, incomes range from $100,000 to "$1,000,000 and over."

Such facts are sufficient to account in large part for the cultural conditions outlined above. "Men's judgments," Shakespeare tells us, "are a parcel of their fortunes." So also are their

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relationships with art. The millions of slum dwellers, the millions of the middle class who hang reproductions on their walls instead of originals, must accept sub-art levels of existence because economic necessity compels them to do so. And whereas, in many previous societies, people might be poor in money wealth yet possess fine things because the prevailing traditions of handicraft enabled them to make them for themselves, modern industrial society has deprived its poor of even that resource and consolation, leaving them in material and artistic destitution.

The same circumstances that sapped the artistic vitality of large areas of American private life contributed indirectly to impede the development of public patronage. A sound foundation for governmental art patronage in America had been laid almost simultaneously with the foundation of the government itself, when Washington commissioned L'Enfant to design plans for the national capital. During the succeeding era of reckless exploitation the country forgot this splendid precedent. A few fine federal buildings apart, there was for a century little more to show than a series of pompous state capitols: façades to official prestige voted by men who had some vague conception that grandeur was appropriate to government and that grandeur lay in domes and marble facing, but whose real interest centered in party politics and material enterprise rather than the integrity of the nation's culture.

With the people and the government both largely incapacitated for active service in the cause of art there remained but one major force to shape the destinies of American culture: the small class, the fraction of one per cent, which enjoyed the great fortunes. In the whole of American society the members of this class alone were free agents with abundant means and power, able to promote in the realm of art whatever developments they chose to promote. For a variety of reasons, ranging from genuine love of fine possessions to acquisitive drive and social ostentation, they chose to concentrate their means chiefly upon the formation of princely collections of imported "art treasures"—

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collections founded not upon democratic cultural precedents but upon the traditions of European aristocracies and monarchies.

Apart from certain utilitarian developments later to be noted, collections of Old World art treasures were, in fact, the only artistic development which can be said to have truly thrived in America during the past two generations. Such collections, fed with fabulous fortunes, grew to fabulous proportions, until they rivaled those bequeathed by European courts. They were a glory—but a glory purchased at a price. Into their formation went the wealth that might have subsidized our artists and diffused art through American society.

Psychologically they had even more far-reaching effects. The great collection, palatially installed, became for America the symbol of artistic life. The acquisition and documentation of art took precedence over its creation. Its concentration in a few impressive centers distracted attention from its absence in the highways and byways of life. The "art treasure" or "museum piece" cast its die upon our very concept of art, shaping that concept in terms of objects so rare and costly that they must be scientifically protected from normal use by average human beings. Our democratic cultural impulses had, in short, been submerged by the artistic ideals of plutocracy.

Such are the voids and disproportions that have made it impossible thus far to credit America with a genuine culture of democracy. A generation ago there would have been little to add. The patient curative forces of life were at work below the surface, transforming an order which seemed to have destroyed them, but the evidence of those forces was far to seek. Within the past two decades, on the other hand, such evidence has not been wanting. Many recent cultural developments seem to foreshadow a new and better cultural alignment.

Current taste and current artistic modes, always in some obscure way connected with the hidden psyche of the times, indicated the way our course was set before we became fully conscious of it ourselves. The modern period has seen renewed enthusiasm

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for primitive and folk art, despised for centuries. I suspect that their appeal to us has not been solely due to their aesthetic value, great as that is. Partly, to the subconscious mind perhaps largely, their meaning has lain in the sound relationship which existed between art and life in primitive cultures.

Cults of the American scene and social consciousness have engrossed many of our painters, as though our minds were turning from the long hypnotism of the past to face the world about us. A deeper index still: we have seen the rise, not without resistance from the stylistic crust of recent time, of the first organic architecture since the Gothic era, and organic architecture implies the nearness of an organic society.

Nor have the signs of change been limited to the forecasts implicit in our taste and style. Our traditional institutions are in the process of evolution. The museum, formerly lost in delusions of grandeur, now feels upon its conscience the demands and opportunities of democratic service and gropes its way toward functions that will justify it to the new order. Collecting no longer forms its sole responsibility. Current exhibitions, new techniques of display, educational programs and creative art-center activities are milestones of its progress toward integration with the social life around it. Equally prophetic is the broadening artistic horizon of philanthropy. Here again acquisition begins to make room for other objectives. The Guggenheim Foundation has established its fellowships for creative workers. The Carnegie Corporation has sponsored a variety of projects intended to bring art into active interplay with American life. The patron, in the Periclean sense of one who sponsors creative activity, seems destined to succeed the wealthy collector.

The severed tissues of artistic production also give evidence of healing. Industrial techniques emerge from their experimental period, raising the machine-made product to the level of a rounded human creation. In cars and clothing, in trim kitchen utilities and a hundred other products of recent industrial design, we see art once more at work at its age-long task of making things we like out of things we need. This development

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is more significant because it reintegrates the artist with productive labor and because it sets art coursing once more through the normal channels of daily life. The result is an artistic situation involving the whole of society—manufacturer, dealer, artist and public—perhaps the first such situation in modern times.

Folk art in turn gives evidence of living again, not merely as a wistful reminiscence of the past but as an active force today. In the fastness of its rural sanctuaries, where its last traces seemed doomed to die, we see it now reviving. It does so partly because economic breakdown has forced many people to make things for themselves; partly because modern taste has created a commercial demand for it. And this revival of peasant art is not the only aspect of the new folk impulse. It reveals itself in a new desire for creative expression on the part of average middle-class Americans.

Creative activity is one of the major satisfactions of the human soul; another is the satisfaction of owning and using those personalized possessions to which such activity may lead. Even under conditions which repress it the desire for these satisfactions persists and will eventually find ways of expressing itself. We see it working its way to the surface of modern life in a variety of hobbies, home crafts and creative workshop activities. The amateur artist is the folk artist in one of his modern guises. The artistic value of his product varies but always it has its psychic value: the creative experience through which, as through some Jordan of the spirit, the soul passes to new life.

If anything further be needed to complete our vision of the new cultural order it emerges triumphantly in the recent developments of governmental art patronage. Interestingly enough, and in the light of the facts suggested earlier in this essay naturally enough, it took a depression to bring such patronage to active life. Only when our economic system lay stricken of its recurrent fever was the plutocratic mold so far broken as to permit the emergence of cultural forces previously repressed. Architectural historians point to the great fire of

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London as the occasion which gave Wren and other Georgian architects their magnificent opportunities for rebuilding. When the cultural history of America is written I believe that the depression will be recognized as equally opportune for the development of cultural democracy. In a decade of economic breakdown, working with limited relief budgets and constantly harassed by the vested interests, government agencies such as the United States Housing Authority, the Federal Art Project and the Section of Fine Arts of the Treasury Department did more to break the ground for a genuine culture of democracy than "normal" agencies had done in a century of prosperity.

Then came America's first real effort at slum clearance and decent low-cost housing. Then, within the short space of six years, from workers of the Federal Art Project alone, came 1500 murals for public buildings across the country, 4200 works of sculpture and ceramic decoration, 52,000 original oils and watercolors to be lent to schools and other community institutions. Then came 86 community art centers in which 8,000,000 Americans participated in artistic activities. These and other similar developments have given large sections of the American public a new experience of art—and life. At the same time they have opened new horizons for the American artist. Material support aside, many an artist has received from federal activities his first chance to be part of something bigger than himself. Here for the first time he felt society behind him, society ahead.

Somewhat apart from governmental art patronage in the narrower sense, but still a manifestation of our public life, are various forms of community enterprise such as schools and other civic buildings, and public utilities like dams, highways and bridges. Although not always all they might have been, these had some splendid things to show even before the depression, and their progress has continued since. Millions of American children have gone to schools that gave young eyes and souls the lift that art was meant to bring to human beings. And when we turn to the triumphant works of recent engineering—the rhythmic landscaped highways; the great steel bridges, uniting

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power with grace in a way which few things have done since the Gothic cathedrals of the 13th century—then are we proud to be Americans. Here we feel that benefit of soul that comes from an art of our own, the work of our creators, made for the needs of life today; an art that sweeps us forward with the tide of our purpose and makes us conscious of the value of our social bonds because through them we are all freer and better equipped for life. Such works are among the finest achievements of art in America to date; and they demonstrate once more that surpassing achievement is likely to be reached in any form of art only under conditions in which the individual worker rides the flood of social demand and social support—the conditions of cultural democracy. The American engineer and architect are here the prophets of the new order, telling what great things can be done in the land when culture and democracy work together for the fulfillment of human need.

In the light of these recent developments the dream of a modern democratic culture, which at one time seemed a lost hope, lives again. Its ultimate realization is still far from certain, but it has before it at least a prospect and a fighting chance. And if in the end democracy is to survive as a political system it must justify itself by the integrity of its social and cultural manifestations. Man does not live by the right to cast a ballot. Neither does he live by the right to see the remnants of other men's cultural triumphs. He lives by the right fully to enjoy, in his own day and generation, the enduring satisfactions of life. Only when art and the other benefits of culture flow freely through his individual and social life can he be said to profit, in any real sense, by the "inalienable rights of man."

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Pedagogues and Pedagese

DANIEL GIBSON

DURING his visit to Laputa, that strange volant piece of earth, Captain Lemuel Gulliver spent several days watching the activities of the projectors, or scientists, who were campaigning vigorously against the spoken word as a means of communication. Believing that speech corroded the lungs and also that words were vague, inadequate symbols of things, they lived their days in utter silence and lugged about on their backs a variety of conversation articles with which, upon meeting a friend, they represented their thoughts. Doubtless such a scheme had its disadvantages and when faithfully employed occasioned many weary backs, much stammering and often a complete loss of speech. There could have been little opportunity for a William Wordsworth, who all too frequently needed a tree or a cataract, or for a Congressman, whose oratory would have suffered an unwieldy impediment; but that might not have proved a loss to the community. As a matter of fact the women of Laputa, insisting upon their ancient prerogative, brought this project of a universal language to naught.

Truly, to reduce language to such a pristine simplicity—to return to the days of our fathers and dabble, if not with things, at least with pigments and other pictorial aids—this were a consummation not entirely to be ridiculed. Is it necessary, this huge encumbrance called Webster's *Unabridged?* There are now, I am told, over 600,000 words in the English language and new ones coined daily. Shakespeare employed less than a fortieth of that many words, Milton even fewer, and they expressed themselves fairly well.

There are those who contend, of course, that possession of a large vocabulary is not merely a social asset but an absolute necessity for distinct logical thought and communication. They

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point out that the cultural status of a people is determinable from the range of its language resources. A primitive folk is possessed of a scanty vocabulary; the Laputans, for instance, would have found their cumbersome terms a serious hindrance to their other excursions into science. Accordingly we today with our 600,000 words should be a vastly cultured people.

One may note on the other hand that Samuel Johnson's famous Dictionary in 1755 contained only some fifty-odd thousands of words and that Noah Webster's original work 73 years later included only 70,000. Has the past century and a half landed us in a cultural millennium twelve times more advanced than that of Johnson's England? Apparently the logic of language-pro-culture breaks down somewhere.

How, then, explain these additional 550,000 words? and how justify them? Partly responsible for the apparent increase is scholarly research which lately has become more careful and exhaustive, with lexicographers collaborating in the production of such works as the *Oxford English Dictionary* wherein no nook and cranny of spelling and usage has been overlooked. Then too the enormous strides of scientific investigation have opened great fields of knowledge for which extensive terminologies have been coined. And, not least in importance, the population of the English-speaking world has grown many-fold since the days of Johnson. These hosts, scattered into diverse climates among strange peoples, many of whose words they have adopted, have fathered thousands of new terms, some of them stillborn, others destined to fill a need and hence to find a place in our lexicons. The settlement of America alone has given us "wigwam" and "squaw" from the Indian, "levee" and "crevasse" from the French, "boss" from the Dutch, and of course hundreds more. Increased speed of transportation also has vastly facilitated the interchange of words formerly peculiar to one tongue.

It is to science, however, that most of the increase in the English vocabulary is owing. Not only has its development opened new vistas of knowledge; it has also insisted upon

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narrower definition, more precise and exacting, in the sciences which long have existed. The entire trend has been so technical that a liberally educated man finds entire bodies of knowledge barred from him more completely than if they were expressed in Erewhonian. It is this element in the present English language that makes one pause in doubt. Is the accelerating tendency of specialists to coin isms and ologies justified?

Many sciences of course—the physical, or exact sciences, purely so-called—from the days of their alchemical or astrological forerunners have been esoteric and probably always will be. Their mysteries necessarily are couched in a special terminology, abstract because their methods are highly technical. It is not enough that a physician know that a bone has been broken; he must know that it is a particular kind of fracture, compound, comminuted or simple, of a particular bone, must know precisely what portion is broken and the muscles and muscular functions affected, and must know what complications are involved. All of this demands an exact and therefore a technical terminology. With the mathematician, engineer, chemist, physicist, we have no quarrel, partly because their knowledge must be and can be exact and largely because they constantly endeavor to develop their abstractions into a practical application. We do not trouble our heads about the incomprehensible (to us) mathematical formulae which Joseph Strauss used in the making of Golden Gate Bridge; for most of us the enduring structure is enough. In the same way we admire the brilliant exploits of a Michelson or Compton. Let them spout incomprehensible words. To our dim seeing the results appear to be dependent on the antecedent mysteries.

Unfortunately a vast amount of the work which poses as science is not deserving of the name. Moreover—and here is the point—these pseudo sciences are guilty of shrouding their ignorance in clouds of esoteric terms. They have borrowed from the prestige of exact science and, depending on the complacent credulity of the public, have only to emit a jargon of recondite verbiage for us to become wide-eyed in acceptance of their

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apostolic mission. Nearly every periodical magazine or newspaper flaunts advertising which, bound together, would form a vertiable *Gull's Hornbook*. Do you suffer from acidosis or lack of Vitamin X? Does *your* toothpaste contain irium? Does *your* chewing gum contain milk of magnesia (dehydrated)? Has *your* cigar been tested by that "metallic nose," the *osmoscope?* Is your face cream *keratolytic?* or does it contain "colloidal gold"? Do you eat Seven-Power Ironized Yeast (with Vitamin B) for that emaciated look? Now all these things and the claims advanced for them may be quite legitimate. But the insistence upon such terms is a deliberate appeal to the layman's superstitious regard for anything presented with scientific unction. Not the idea but the Word sells.

Furthermore—and most important of all—some pseudo sciences should never be permitted to erect false barriers of words between themselves and us. Their work and its results are of such intimate concern to every man and woman that their snobbish isolation deserves probing. Each year they flourish, and the fruit mostly is a husk of exotic terms which conceal rather than reveal the annual kernel of truth. It is rather amusing and sometimes irritating to read much that passes for psychology in newspapers, magazines and books that daily encumber the presses. Such "psychology" is bad enough in advertising; to see it elaborately cloaking platitudes in supposedly learned essays and, worse yet, to hear it from the lips of savants, many of whom cannot discuss a human action without recourse to "fixations," "complexes," "libidos," "conations" and the like—this is the height of absurdity. Frequently the person who uses such "tall, opaque words" is being merely pompous and instead of displaying accurate knowledge is revealing a slipshod thinking apparatus. What is the difference between the collegian's slang use of "swell" to describe anything from a bullfight to a silver platter and the glib use of "complex" as a description of almost any mental habit, bad or good? Both usages are slang. Do you fear thunderstorms? You have a phobia. What did (or does) William Ellery

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Leonard suffer from? Fear of locomotives? You must call it *siderodromophobia*, if you can pronounce it.

It is not that growth of the language is deplorable. Quite the contrary; none of us would wish to adopt the Laputan method of communication (lest we be accused of "verbophobia"). But that unneeded words should be coined (often, it would seem, only to veil a subject with erudite mystery) is to be guilty of cant. Psychology already is suspect in some quarters because of its numbers of glib practitioners who would appear to know all of God's secrets.

The worst offender, however—worst because it so patently should have no scientific pretensions—is education as it is exemplified and taught in American colleges of education. There the paraphernalia of pseudo science is rankest and the subject itself so overladen with false sophistications of technique and terminology that the only remedy would appear to be extirpation root and branch. No delicate pruning hook will suffice the critic of most modern teaching of education; only a scythe could make headway through the choking confusion of thistles and weeds—and a lusty swing is the proper stroke.

One path of analysis into this labyrinth is by way of comparison. During the Middle Ages the learning of Western civilization reposed mostly in the care of the Roman Catholic Church and consisted of a corpus of knowledge, somewhat limited in extent, of which the major tenets were seldom questioned. The boundaries of intellectual exploration were externally as sharply drawn as the feudal lines of social distinction. With this body of accepted truth the Schoolmen entertained themselves, using as rules the principles of Aristotelian logic. And they had great fun. They might not openly question the Biblical or Church traditions but they could perform acrobatics of interpretation to their hearts' content. Elaborate webs of logic were spun proving or examining the orthodox interpretation of transubstantiation or analyzing with exquisite subtlety the exact nature of the Trinity, the attributes of angels, the precise meaning of Aristotelian universals. Their insubstantial

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speculation persisted long after Francis Bacon sounded its death knell with his ideal of an experimental philosophy, and their methods have not ceased. In every subsequent age there have been philosophical schools or pseudo sciences professing theories incapable of proof or even antagonistic to fact, the proponents of which have woven, spiderlike, their logical systems from their own innards. Like castles in air their creations have risen, supported mainly by words and raftered by quiddities.

The professors of education in America, like the Schoolmen of the Middle Ages, have made education itself ancillary to quiddities. They too are wandering in a stratosphere of thin terminology and have cut themselves off from their intensely practical task. Granted the extreme difficulty, the dubiety which always has accompanied the methods of developing the next generation. But intelligent men consistently have agreed that the aims of education and its fundamental problems are fairly well defined. Huxley, himself no mean scientist, stated this aim as clearly as anyone in *A Liberal Education; and Where to Find It*—to produce a man whose

> body is the ready servant of his will, and does with ease and pleasure all the work that, as a mechanism, it is capable of; whose intellect is a clear, cold logic engine, with all its parts of equal strength, and in smooth working order; . .whose mind is stored with a knowledge of the great and fundamental truths of Nature and of the laws of her operations; one who, no stunted ascetic, is full of life and fire, but whose passions are trained to come to heel by a vigorous will, the servant of a tender conscience; who has learned to love all beauty, whether of Nature or of art, to hate all vileness, and to respect others as himself.

Surely this is an enormously difficult task and an ideal to be accomplished in the few rather than in the many. It must not be forgotten, moreover, that two factors only are of prime importance: the teacher and the student. Not all the techniques and questionnaires and graphs and high-sounding terms in the world will carry us far on our way.

In truth, perhaps, it is the external simplicity of the problem which has led our professors of education astray. Confronted

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with it they, like Hamlet, have sidetracked themselves in a maze of speculation about how best to do't and have lost the native hue of resolution. It is indeed fearfully simple. "Mark Hopkins on one end of a log and a student on the other" was one man's definition of a complete educational system. In its essence, the value of any school lies in a similar combination.

Some years ago, however, public school education set about to redeem the inefficiency of twenty-five centuries of pedagogy and sold itself lock, stock and barrel to psychology. Too inept was the old, laborious method of dealing conscientiously and intimately with the individual student, a task slow and expensive but demanding the rarest qualities of insight and devotion from the teacher. To educate large groups speedily a set of generalizations about human nature had to be established, a set of "coefficients" as the educators call them, on which predictability could be based. If, perchance, educators could neatly analyze the human mind and deduce the "laws" of its activity much guesswork would be eliminated from teaching: they could prescribe for their classes with as much confidence as a physician doses his malarial patients with quinine. And therefore they adopted psychology.

Actually since much of the professors' faith in the "science" of education stems from an optimistic theory nearly two centuries old their science is not at all progressive in the popular modern sense of the term. John Locke started it when he described the mind of an infant as a tabula rasa on which experience writes; the next link was added by Rousseau with his idea of man's fundamental goodness, which unfortunately is often corrupted by experience of this world; the chain was forged complete by other thinkers who, enthralled with the apparent inflexibility of natural laws in the physical world, decided that man's mental processes were subject likewise to inevitable laws of cause and effect. Ergo, start with a spotless infant, remove all contaminating influence from his vicinity, operate on his mind with ideas of virtue and justice, and presto! a Superman. "Render the plain dictates of justice level to every

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capacity," said William Godwin, "and the whole species will become reasonable and virtuous."

The scheme was really very neat except that it failed in practice and still fails. The baffling influences of heredity, the infinitude of individual vagaries caused by differing backgrounds, make it impossible to determine those "inevitable" laws of human behavior or to prescribe for man en masse. With an individual, after long study of the enormously complex forces which have modified the basic elements of his human nature, after exhaustive observation of his reactions, one can deal with some measure of less than certainty. But each child of twelve is a mystery as complex and deep as a T. E. Lawrence and every experiment is a special one.

In the United States the faith in universal education has grown with a lushness and a disregard of historical fact comparable only to the blissful dreaming of pre-Revolutionary France. As an ideal it is splendid and, aided by lavish appropriations of money, has produced the external aids of magnificent school buildings and incomparable equipment, things which physical science has made possible. But the public school educators have not lived up to their surroundings, though they have tried with unflagging energy—with too much energy, it may be, misdirected into the pursuit of falsely scientific aims and deluded by much wide and rash generalization or, worse yet, diverted into silly and inconsequential researches. Nearly every university has its college of education from which thousands of public-school teachers and administrators are yearly dumped into the field to confront one of the heaviest responsibilities in the world. What have they gained to fit them for their task? Their training has been concerned exclusively with the technique of classroom management, with methods of appeal to pupils in all grades (usually with specialization in one or two grades), with a smattering of psychology which is better taught in the liberal arts college, with the technique of apportioning grades, "testing" intelligence, compiling reports etc. These are supposedly the elements of how to teach. If they return for

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postgraduate study they are generously fed with more of the same, inducted into the mysteries of more profound measurements of "pupil-ability," more intricate tests, and rounded off with a dash of "research" work in which theoretically they are to apply these tests to information gained from questionnaires. And all this "scientific" procedure is appropriately set forth in a "scientific" terminology to infuse it with the proper learned atmosphere. With the subject matter itself the college of education has no concern; the students must gain that adjunct to their equipment in other departments of the university.

The extent to which slightness of matter has been garnished with the trappings of learning is amazing. Only the other day a new student in a large college of education observed to me that she was having to "learn a new vocabulary." To what end? In an effort to find the answer I have bored myself for many hours laboring through pages of the voluminous writings produced by these workers, writings with which entire libraries could be filled, about "principles of secondary education," "principles of primary education," "tests and measurements," "research methodology," "classroom administration" *et al.* They have their learned journals, too, just as the scholars of medicine, physics, geology and chemistry, with each article therein meticulously furbished with statistics, graphs, charts, huge bibliographies, copious footnotes, formulae and conclusion —even an article two pages long has its "summary," a fact slightly insulting to any super-moronic mind. Are you interested in "The Amount and Rate of Talking of Young Children"? Very well, you can find out; and the conclusion is that "within each group there is some tendency for the older children to talk more than the younger." (The adjective "some" is characteristic: a flat, unmodified assertion would be unscientific.) Is that clear? But no: it lacks the touch which supposedly lifts it from banality. We must continue and learn that "the coefficients between amount and age are $.34 \pm .14$ and $2.8 \pm .15$ for nursery and kindergarten respectively." In the same way you can read about "Sympathetic Behavior in Young Children."

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You discover, scientifically, that some quarrel and kiss, others quarrel and fight. Or, if you wish the more abstruse, you can peruse "A Study of Certain Fears and Wishes Among Deaf and Hearing Children." At the end of the article, more than likely, the results will be summarized in some mathematical ogre like this: $\frac{\text{Diff. (A-C)}}{\text{P.E. Diff.}}$.

These illustrations are tame. Let us go further. An educational study (that is, one designed for educators of educators) entitled "The Reduction of Data Showing Non-Linear Regression for Correlation by the Ordinary Product-Moment Formula; and the Measurement of Error due to Curvilinear Regression" was read before the Psychology Section of the American Association for the Advancement of Science. Now what, in the name of heaven, does that have to do with teaching your young son his history or geography? In one of the research journals we also discover "An Extension of the Kelley-Wood and the Kondo-Elderton Tables of Abscissae of the Unit Normal Curve, for Arcas (½a) between .4500 and .49999 99999." This is education. Isolated gems of this strange erudition might be quoted at length: "Isochronic equation," "P.E. of r" (and five more P.E.'s), "skewness," "decile" (lifted, for some reason, from astrology), "Pressy X-O Test" (perhaps a new ethyl gasoline), "sibship" (an exotic for "relationship"), "Biserial r," "ogive" (taken from architectural terminology), "Ratio of Diff. to S.D. of Diff.," "Zero order coef. of corr." and other coefficients—dozens of them. Apparently Webster cannot hold them all, for there has been projected a dictionary of educational terms to contain over 10,000 words.

Is this curious vocabulary a means to an end? It would appear rather to be symptomatic of the most effective rift between theory and life that education ever has known; an attempt, perhaps, to elevate and dignify into a vacuous arcanum an activity which needs no elevation or dignifying, one which is as fundamental to society as government. The attempt has less justification than the baseless fabric spun by the Schoolmen of the Middle Ages, for their methods at least were consistent

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with their aims and required keen intellectuality. Today, however, I pick up a study, written by a respected educational pundit, comparing public-school children with private-school children in Wisconsin. Therein, after citing pages of questionnaire-results drawn up into formidable graphs and charts, he concludes, first, that most of the private schools in Wisconsin are operated by the Roman Catholic Church; second, that most of the students in the Church schools chose them for religious reasons; and, after more pages of mathematical analysis, he determines, third, that the students of nonsectarian private schools in Wisconsin average a higher intelligence rating than those in public schools. Is there anything in these conclusions which might not be deduced by common sense? And yet several hundreds of pages, representing months of "research" by questionnaires and tests, precede them and presumably make them scientifically valid. Nor is this an isolated example; it it typical of the thin substance behind much "scientific" research in education.

"Thought and speech," observed Cardinal Newman, "are inseparable from one another. Matter and expression are parts of one; style is a thinking out into language." The kind of cerebration behind the hieroglyphics of much educational research is forcibly evident whenever the professors eschew their usual mode and write English, their vulgar tongue. I turn to the editorial page of the *Journal of Educational Research* and the opening sentence suffices: "The elementary school meets the minds of the pupils at a period of growth concerned, in a particular way, with the development of a growing brain." Another singsong conundrum appears in a curious article entitled "The Measurement of Attitude toward War and the Galvanic Skin Response" which opens:

> The more that is known about any particular quantity the more significant becomes its measurement. Hence, along with the development of adequate methods for measuring a quantity there arises a demand for a more complete description of the quantity measured. Thus recent developments in the field of attitude measurement make

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it increasingly important to understand the nature of the thing measured.

When some of the professors essay definition the result is often what one might expect after reading the preceding quotations. For instance there is the opaque "pedagese"—as Dr. Abraham Flexner called it—of "aptitude age," lucidly set forth as "a statistically determined ability to respond successfully to a definite testable complexity of mental experience which has been determined as the average ability of minds of that chronological age." Or at the other extreme is the definition of *technique* (one of the most ubiquitous terms in these studies) which appeared on the editorial page of a learned journal:

> When one comes to do a thing, it is always done in a particular way. There may be, for example, several ways of tying one's shoes—each about as good as the other—but when one's shoes are tied they must be tied in some particular manner. These specific ways of doing things —tying one's shoes, teaching a sixth grade class in arithmetic, playing a violin, etc., are commonly called techniques.

These excerpts may suggest why the professors of education prefer to use charts, diagrams, graphs and an esoteric language. But despite their efforts to appear scientific, education is not a science, never will be a science and is too intimately the concern of every man, woman and child to be cut off from them by false sophistications. The child is lost in the maze of theory and above him sit the professors gesticulating and arguing in their strange argot. Of the futility of their theorizing and researching there could be no more lamentable proof than their own failure to educate their embryo educators. I have often conversed with sensible students in these colleges, students who genuinely wished to teach, but I have yet to find one inspired by the prescribed material or by the preceptors. Therein perhaps lies the salvation of the children they will teach—there, and in the children themselves. But the students "have to take the courses," for the state law requires them as prerequisites in public-school teaching. Curiously enough, while for more

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than a generation the battle cry of educational progressives has been "self-expression" for the child, less regimentation and more *ad hoc* teaching, regimentation in educational courses for the teacher has steadily tightened and colleges of education are barely visible in the clouds of voluble theorizing. It sounds as logical as $\frac{\text{P.E.}}{\text{Diff.}} \frac{(\text{A-C})}{\text{Diff.}}$.

It is a vicious circle. Here is a huge institution clinging to the sides of the university and, by means of state laws, thrust into virtual control of public-school education. Mushroomlike it has grown, not because it is vitally necessary but because it has made itself legally necessary. It does not tell the student what to teach but how to teach—an extremely limited task because insight, understanding and infectious enthusiasm for imparting learning (part of the attributes of a gifted teacher) cannot be taught. But it has made its work mandatory; it has concealed its slight foundation under a huge superstructure of flimsy courses and technique, pointless research activities and voluminous publication.

Perhaps—who knows?—the Laputan rebellion against words was a reaction from the vaporings of the nation's learned men, even its educational psychologists. No doubt the revulsion was absurdly extreme but so is the current malady of adipose tissue with which Webster's is cumulatively threatened. Inflation in our verbal currency may be less immediately a catastrophe than in our silver but in some manifestations is equally a reflection of insolvency. Unfortunately no law but that of intellectual honesty restrains the counterfeiter of words. But that law is the foundation of all intellectual advancement and cannot be too stringently enforced. Surely it is not impertinent to request our modern explorers of doubtfully scientific realms to clear their minds of cant; or to remonstrate when they return from a journey (like Sir John Mandeville in what we are pleased to call a more credulous age), bearing their thin discoveries bedizened with horrendous or insipid detail. Respect for words is nothing but respect for truth.

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The South and The North: A Southern View

THOMAS SANCTON

THE Southerner who insists on telling the stale jest about not knowing "damyankee" was two words until late in life is as embarrassing to another kind of Southerner as he is to the Northerner. Southerners to whom these words meant something real and bitter are very old now. They have forgotten much. Some have never forgiven. Most of them, when they recall the Reconstruction, feel as certain now as they ever felt that right was on their side. The old Ku Klux Klan, Wade Hampton's Red Shirts, ballot box stuffing, the long war of attrition against scalawags and carpetbaggers—these were phases of an ineffably bitter fight and when they took sides as young men it was forever. But these are the very old, now; they are sitting out on sunny days wrapped in warm coats, nodding, remembering little. They no longer do our writing, they no longer edit our newspapers, with few exceptions they are gone from our state legislatures and from Congress.

The northern speech that once felt alien to our ears is now familiar, for we have been listening to it with tense interest on the radio for years. We hear it in the movies. And when a stranger from the North gets off a train in a southern town and asks directions to a hotel he no longer draws attention as an alien, for his accent is now familiar. What is more, there are more strangers who get off trains in these years. Travel has broken down much of the isolation. So has the subject matter of movies themselves—for all their sentimentality, for all their fakery, for all their colonels with white whiskers and for all their fairy tales laid in a Wonderland called New York. If only by accident, they have placed some visual pictures of northern

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background, of crops, of houses, of buildings, sometimes actually of life, before the southern eye; and sometimes, more rarely, when the key to the costume department was lost they have given the North a picture of the South today.

Travel has done much. It is the Southerner, however, who has done most of the visiting. For one thing he must make regular trips to the business center. But too many travelers from both sections follow a worn path. Go into Grand Central some January day and behold a line of people buying tickets to Florida. A New Yorker will tell you, "I've only been South twice." What he means is that he has been to Florida twice. There is nothing wrong with Florida except that he never sees the State. He goes to a cluster of good hotels along a strip of coast that is an annex of Manhattan. A lesser number go to New Orleans to visit the restaurants and the Vieux Carré, loll around for a few days, watch a Mardi Gras parade and return home convinced that here, here they have found and savored the cavalier spirit of the South. Some few others go on the Pilgrimages and Garden Tours to the old proud cities like Natchez, which are poor now and re-enact some of their old pride in costume to help a shrunken income.

New Orleans is a true part of the South but only a small part, far from typical and, like the social strictures of Charleston, it is written about and better known in the North than it would be if it were allotted proper space in a composite southern picture. I am all for this, like any transplanted local character, because New Orleans is my home and I have never shaken the native's pride that the city's joie de vivre pleases outlanders. The populace, as Rabelais observed of Parisians, is more easily drawn together by a fiddler or a mule with bells than by an evangelical preacher. But this is why the city is not typical of the South. And this is one reason why northern tourists who visit only these special cities never become aware of the real spirit that pervades a sober, poor, agricultural, "Bible-Belt," small southern community. They never come close enough to such a community to perceive that the people they believe

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bigoted, ignorant, violent and cruel—and who are all of this under certain circumstances—also have a number of indestructible virtues. To name some of them: they have self-respect; they have a deep sense of decency that for all its stern excesses, once ridiculed so contemptuously by the *American Mercury*, probably comes nearer a philosophical ideal than the morality to be observed in the grogshops of Greenwich Village; even the humblest of them has a word that he intends to keep when he gives it; and each has a simple courage geared to action. It is a tragic paradox that the southern background of violence is producing lynch mobs at the same time that it is producing superb troops in the democratic armies fighting fascism.

The hospitality for which the South is best known inhabits the homes of the well-to-do, who have the servants and the money to make possible a gracious, leisurely life that is their heritage. Virginius Dabney, certainly no unfriendly critic of the South, acknowledges in his recent book, *Below the Potomac*, that the man who comes armed with the proper letters of introduction and out of similar background is more likely to enjoy this hospitality than the man who does not.

But as a matter of fact the spirit of this geniality pervades all classes. Very humble Southerners, with none of the resources to provide the spacious protocol, exhibit this spirit to the utmost. You do not have to visit their homes or be their guest to see it, for it is part of all of their waking hours. Listen to southern strangers engaging one another in conversation on the day coaches traveling through long, hot afternoons across the forests and fields of Alabama or Mississippi. Inquire of a bus driver in any southern city the directions to an address and witness how two or three passengers join in the directions to be sure that you, a stranger, will find it easily. Or make a purchase in some flyspecked, drowsy drugstore and be warmed by the manly, nonservile friendliness and courtesy of the druggist. This goes for most of the tradesmen. They do not do as much business as tradesmen in a hustling, populous northern city. They make less money. They are under less pressure. They have more time

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to seek and to enjoy all the warm and comforting pleasures that are possible in the relations of man with his fellow men.

Many books have offered to explain this spirit, or this "mind of the South" as the late W. J. Cash titled it in his beautifully written book. I have never felt the explanation to be obscure or subtle considered in its fundamental aspects. To me, a Southerner who has lived for three years in the North, the answer is based on density of population, on agricultural life contrasted with city and industrial life, and on climate.

When you funnel into the great channels of transportation twice daily, and crush against a hundred strange bodies in subways, and are bowled along on crowded streets, your friendly intercourse as one individual with another vanishes to nothing; it is chipped away, worn away, beaten down. Life is a pumice wheel. The individual who is not to be worn to sand must burn and temper his individuality to the hardness of diamond.

Of course this is a generalization. *Of course* there are thousands, hundreds of thousands of even-tempered, friendly, passive people in the great northern cities. But in the sense of an over-all quality I am confident of what I say. For even Southerners who detest the hardness and the individuality of this life find that nature automatically hardens them. They find themselves snarling back at the Madison Avenue bus driver who slams a door on them and leers; shoving back when shoved on a subway. For a certain time they will continue to apologize, especially to women; but when the gracious smile does not come —the reaction they are conditioned to expect—there is a sense of anger at the unforgiving frown and the muttered words. After a time the Southerner begins to nod briefly and keep his "I'm very sorry" to himself. Then he has become a New Yorker, sometimes never conscious his old habits have been abandoned.

I have made the criticism that Northerners travel mostly to the special tourist cities of the South. It is equally true that in most cases the Southerner travels only to New York. There are side trips to Philadelphia, to Washington, to Chicago, but these are goliaths also; and anyway, it is really to New York,

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to the legitimate stage, to Radio City, to the broadcasts, to Greenwich Village that the Southerner heads on his northern visit. To a certain extent I feel what a writer has said of the villages of New England to be true: that the Southerner finds in them much of the social structure and many of the manners he knows at home. But it is true to a limited degree. Certainly the tempo of speech and thought and reaction, and of action itself, is fundamentally different. The New England Yankee is born, nourished, educated and brought to maturity in an icebox—and this makes the difference. The Southerner knows cold days and storms and rainy weather; but for ten times as many days of the year as the Bostonian he lives in soft and bright sunlight. He himself softens to it; he drinks it in and life takes on the ease and gradualness of the growing crops of his fields (a fact that W. J. Cash discussed profoundly). The Northerner's climate is really too cold for easy manners. He will laugh at this but it is true. Who can engage in pleasant conversation while waiting for a bus along a New Jersey highway, stabbed by a bitter, agonizing wind?

It seems to me that, as the well-to-do class of the South lives by a special protocol not available to the humble, the middle classes and the well-to-do of the North live by another special manner. Many times I have seen the humble men of New York, in a quiet moment and away from the crowd, enter into the same friendly, interested, courteous relationship that is the finest virtue of the South. A policeman late at night in the deserted hours stops at Broadway and 42nd to talk to a window washer about his new pair of Thom McAn shoes. He simply feels like talking about shoes. So does the window washer. They spend a long and pleasant quarter-hour talking of them with the unselfconscious earnestness about simple things that only simple people can know. But in the crowded hours of the day in a crowded city a man is stripped for action and the quality of gentle friendliness is one of the first things he casts away.

If you ask directions of a policeman in New York or Boston you will be answered in the same helpful spirit you can always

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find in the South. The New York policeman will begin, "Look, Jack, you know where Lexington is?" In New Orleans he says, "Let's see now, you want to get to the Cathedral. Do you know where Chartres Street is?"

The well-to-do Northerner's position has made him a special case. I have a real warmth of affection for a number of them as individuals—for some few who have raised the portcullis and called off the dogs. But as a class they are pretty tough. This might seem a ridiculous criticism, but not to a Southerner.

The middle-class man in New York, and the moderately well-to-do, has been drawn into a fight that has no ending, a struggle to hold what he has and to add a little more in the face of crushing competition. He is not a citizen of a country, a state, a city, a neighborhood or even an office building. He is a citizen of his own home, of his own small apartment high over a noisy street, of his own small place in the suburbs. His life is lived with his wife and children; they are his fellow citizens. When he leaves his door in the morning he ventures into an unfriendly country. He is on his guard from that moment, as ever cave men were when they walked into the forest. He numbers a small group as his friends; yet if you could place his conception of friendship under a microscrope you would see that these men are rather his allies. Friendship is too leisurely for the hostile forest. At night he removes his armor; he summons a family of cave dwellers from the next ledge to sit with him by the fire. But his ear is always cocked for noises.

No one can admire more than I do some of the results—not all of them—that come from the energy, the quick intelligence, the austerity that is far more the province of the northern man than of the southern. No one could more admire a great university such as Harvard, built by this austerity. I am far, far from the position of the twelve southern essayists who wrote *I'll Take My Stand*. At first reading there is something sweet-sounding about their plea; that the South hold to the best of its old agrarian ways, to its old concepts of religion, of education, of society; that it resist the draining and crushing indus-

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trialism of the northern industrial ideal. But a Southerner who studies the book today, twelve years after it was written—after a great depression, after the New Deal has penetrated the South, after we have been plunged into a war in which white men and black men must fight together or perish—feels that these essayists were playing at the shepherd life. How can an antique, agrarian society live in this world of steel and fire? France was agrarian and perished. In these essayists' contributions and in their statement of principles—most of them laboring in the stilted, arid terms of the professional's vocabulary—they deplore the disruption and debasement of the craftman's joy of labor, brought about by the continual invention and perfection of laborsaving devices. But these essayists must also deplore the electric light, the telephone, the automobile, the radio and a thousand things which in a sense have made even our poor and unhappy people richer than the poor and unhappy ever were before. The Southerner who wants to go back with the agrarians is only sorrowing that he was born too late, like Miniver Cheevey in the poem.

This war is teaching us much about production. Our leaders are beginning to glimpse the great tomorrow that is possible: a future of abundance; of production, distribution and planning; a world for the common man, and only to this extent for philosophers. What real poet will face toward the past when the spires of a new world are looming out of the future? I think the southern intellectual, the southern liberal should rather accept industrialism and fight a good fight to get some democracy into it and to tie its whole structure to the affirmative, planned economy that the future will certainly bring. The southern intellectual and philosopher should begin to get into the fight against those among us who flog CIO organizers. His fight should begin for the economic and political emancipation of the Negro, and for the end of his long serfdom. And the fight should begin *now*, while we are fighting to keep democracy alive abroad and the Negro is fighting to get democracy at home. If anyone wants to raise the debased level of southern economy

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he should fight to prevent the industrialist from using a vast well of cheap Negro labor to crush down wages paid the white man and black. And the fight should be made against the simple economic formula of high rent and low pay for Negroes that has built many a white fortune in the South and the North alike.

I have spoken of the people of the small-town, rural South. The North lumps these people together and places them on Tobacco Road. Yet these are the people who will give you more Sergeant Yorks than Jeeter Lesters. You can see them best, what they are as a people, if you go into their legislatures where their spokesmen are at work.

These men are not descendants of cavaliers, despite what our history books used to say. They are yeomen. They are farmers, preachers, teachers, country lawyers; most of them make their living directly or indirectly out of the soil. They have been farmers, and their people before them, back into the mists of Anglo-Saxon history. Most of their names have rural connotations. Some of them chew tobacco. Some of them whittle on long white cedar sticks while they meditate, even in the legislature. A few of them, though not many, have been educated in the East; a few at Oxford, a few in European universities. Too many of them, alas, as in legislatures throughout the nation, are owned by utilities and railroads and others interests. But when farmer or lawyer comes before the body and begins to speak there is an antique beauty to his words, a compelling strength and passion, as though somehow the old lost meanings of Anglo-Saxon still echo faintly in his memory. The first parliaments of the thanes must have been similar. You need only listen to understand the southern passion for oratory.

But you won't get this picture by reading reports in northern newspapers about the laws these men pass. The northern newspapers serve only to reinforce an already-formed picture of abysmal ignorance. As an Associated Press reporter I have written stories about a legislature that refused to lift a blue law forbidding Sunday movies—even for soldiers in a nearby camp who had only Sundays for recreation; a legislature that debated

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a proposal to write separate civics books for Negro students in order not to teach them too much about voting and about a number of significant amendments to the Constitution—and that decided, when the debate began to draw too much attention, not to pass such a law but to follow the policy anyway. I have seen the letters pour back from northern cities on the basis of the AP stories. They hurled bitter and ghastly invectives at the legislators quoted. And all this was a deep and disturbing dilemma to me, as it is to many Southerners. I hated the proposed law; I hated the spirit and blindness permitting such a thing to be seriously debated; I wrote with real effort at impartiality, manufacturing nothing, quoting only what was said; I saw my stories in northern newspapers—how inflammatory and incredible they appeared so far away from their origin; I could understand and feel no bitterness toward the anonymous correspondents who called down death and hell's tortures on one white-haired old senator. Yet I knew these men, admired them as men, felt a real affection for a number of them, and understood that it was as much their nature to consider such a law as it was to breathe. Their tragedy was not one of willful evil but of being the victims of the South's bitter history, of inheriting responsibility for the crime of slavery and a bad sociology that imposed bigotry and prejudice on them from the day of birth. Beyond this, I could see that my own feelings made me really an alien among them.

I should have liked to have been able to tell the whole story. A reporter must deal with facts only, but this means that he must deal with the obvious. There are other kinds of facts. For a news report, however, these take too many words, they are too tenuous, too open to argument. I should have liked to have filled in the picture of these men for northern readers. They live in a state having as many Negroes as whites. They remember Reconstruction, when the pendulum swung. What they will not forget is not so much that Negroes sat in the legislature or in the Governor's mansion but that, by virtue of northern bayonets, these posts were filled by unprepared, ignorant, manipulated,

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childishly-venal men. They held office no more through the popular will than Congressmen from the disputed poll-tax states of today. The southern legislator, in a state where the Negro vote as a bloc would be unsurmountable, feels, beyond any reach of argument, that Negro enfranchisement will always bring about such events. Basically it is a question of maintaining economic privilege and exploitation, but the southern legislator, even in his private thoughts, does not realize this. He is the victim of his own rationalization, which has even colored his religion. To him it is a question of maintaining "law and order" —and doubtless he would even add "divine law and order." Consequently Negro suffrage is the one thing above all others that he fears and will fight with all his guile, strength and, when it must be, with his viciousness. It is an open fight for him. He admits it; he will fight legal recognition of the Negro wherever it takes form. It is his nature. To the Northerner his action seems willful and evil and the northern press so labels it. But the Southerner sincerely believes he is acting from the highest of principles—but principles the Yankee could never understand. The real tragedy is that this point of view is fiercely self-perpetuating. Young Southerners generally accept their fathers' ideas and even before they come of university age close their minds forever . Otherwise they might learn through their studies and observations that no society will ever flourish in the South until the white society makes a fundamental adjustment to give the Negro a chance to live as a free man, not a serf.

The North has deluded itself that all sins against the Negro, or that even most sins, are committed below Mason and Dixon's line. After three years' residence in the North I know this to be a gross delusion. Leave a newspaper office with a group and begin to enter a Negro's taxicab; a teletype operator from Brooklyn says, "The hell with this dinge, there are enough white men driving cabs." A Negro shoeshine boy tells you, "They Jim Crows as much here as they do's at home, a different way," and he gives you evidence. You read in a magazine: "Nor is Jim Crow a strictly southern proposition. New York City

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maintains four public colleges. Together they employ 2,232 faculty members. No faculty member is a Negro." You read in the San Francisco *Chronicle:* "Union lines held fast yesterday in defiance of City Hall's order to cut out racial discrimination against the 21-year-old Negro motorman, Audley Cole. Motorman John D. Costello was suspended for four days for refusing to give Cole instructions in operating his Municipal Railway car. In refusing to instruct Cole, Costello was carrying out the orders of the AFL Carmen's Union." And then comes the Sojourner Truth housing riot in Detroit. White "neighbors" (a check of whose license plates reveals that some had come from 25 miles away) gang up to stone and riot Negroes out of a 200-family housing unit because the white "neighbors" didn't want them in the neighborhood. The greatest rent exploitation in the world takes place in Harlem. And Marian Anderson gets no love from the DAR's in Washington.

Lest all these observations add up to nothing but a small and carping criticism I shall say what to me they add up to. The North (even liberal sections who would not do so consciously) has talked itself into a belief that there is 99 per cent tolerance in the North, one per cent in the South. Anyone who has a sincere desire to make a better place for the Negro in America defeats this purpose if he succumbs to such an illusion. The North has proven itself capable of just as much basic cruelty in race relations as the South has. The evidence is less dramatic, and less frequent, because there are fewer Negroes in the North, because the fire flares less frequently with less tinder.

To leave the matter here would be to leave it with only a negative conclusion. What's the remedy, North and South? You in the North should find your own answer and you should have less excuse for not doing so—less excuse for Jim Crow in your big war factories and Jim Crow in Harlem municipal conditions—than Southerners who have never claimed to be tolerant and who fight this battle as an open war—not under cover. What is the remedy for the South? What is possible?

A southern editor will usually play eloquent tricks with

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this question and wind up with zero. A northern answer dealing only in ideals sounds better but it still amounts to nothing because the real answer must be workable not only for the Negro but for the white man he must live with forever. If you say education for the white man and for the Negro alike you must not expect it to work quick miracles; for the education must come from within the South, and the group of Southerners making the effort to provide it is small and growing only slowly.

Furthermore it must be education with an attainable purpose. W. E. B. DuBois of Atlanta is a Negro scholar whose books must rank high by the severest standards. I can understand his sad rejection of Booker T. Washington's belief that Negroes must be trained as skilled manual workers to take a manual role in the white man's society. Yet there is the matter of successive objectives, and it seems to me that this is the most practical objective that the Negro who is going to live in the South can work for now. At this stage the Negro in the South has almost no middle class, with the exception of a few business men in the cities. There is an abyss between the common laborers and menials and the Negro intellectuals and professionals. Until the Negro builds a vigorous middle class to speak for him, to act for him, to win respect and to defend his rights, he will be pushed around. His skilled artisans can do the most at this stage to help him on toward economic and educational equality. But Booker T. Washington's acceptance of permanent humility and debasement for the Negro is dead. In this vast war, in which Nazi racism is one of the things we are fighting, the Negro has found a new militancy and his hunger is a hunger for full and unlimited rights as a citizen, for the end of Jim Crow in all its forms. It is hypocrisy for the white man to tell him he cannot have this but that he must help us fight the war. What the real southern white friend of the Negro can do is to labor to remove the barriers of ignorance which stand before this realization. It is a bitter truth that it will take a long time to remove these barriers. But this is no reason why the Negro's leaders should cease to demand their removal or why the Negro and the white

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friend of the Negro should sit by passively waiting for the war to end before any efforts are made to bring reform.

At all events this war, if we win it, will serve as a powerful and leveling catalyst and the Negro's welfare will go forward along with the welfare of the exploited everywhere. Years will be required before the South can be prepared for real racial cooperation. But this is not to propose what the traditional Southerner means when he wants the Negro, before he can claim equality, to undergo the white man's 5000 years of "civilization." I mean rather the few decades in which tremendous things are accomplished in this age. I am talking about a process that has been gaining speed since Emancipation; a process that in the interim has raised Negro literacy from 5 per cent to 85; that has bettered conditions of health and reduced the death rate from 33 to 14 per thousand; that has brought the Negro $2,500,000,000 in property ownership and has raised his purchasing power to $2,000,000,000 a year.

There are Southerners abroad today who feel they understand much of the deep and ultimate reason for the southern Negro's lack of group accomplishment and for many of his breaches of the white man's mode of living. The white man of humble background, of little education, of no resources can, if it is in him, live with pride and hope; he can labor for the future; he can struggle for his respectability and his self-respect, from one year to the next, from father to son; and by work and ability and long effort he can win his way up through the levels of social and economic privilege. For long years the Negroes could not cherish this hope; they saved nothing, they lived for no purpose. For most of them a drunk on Saturday night was as much as they could look for to carry them away from the dull routine of their days. What growth was possible to any race in such circumstances? Yet with each passing decade we have given the Negro more to hope for and he has rewarded himself (and us, if we will realize it) with growth and race awareness. There are Southerners now, and the number slowly grows, who work to speed this process.

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In the Workshop

Geography for War and for Peace

JOHN K. WRIGHT

WAR causes certain types of study to put forth sound fruit of lasting value; in others it produces rank growths; still others it blights and withers. On the whole geography is advanced by wars and preparations for war. To conduct a war successfully—a campaign, a battle, even a skirmish—facts of much the same kind as those with which geography is primarily concerned are needed. Military and naval operations require information about the lay of the land and the form of the seas. Armed forces cannot be recruited and supplied without knowledge of the location and character of available resources, natural and human. Familiarity with an enemy's domain is no less vital. The dramatic events of war stimulate a desire among civilian populations for a better understanding of the theaters of operations.

To meet such needs governments maintain permanently in peace and set up temporarily in war costly, elaborate agencies for the making of maps and for the accumulation and dissemination of geographical information of many kinds. Except for those made in the United States, most of the fundamental large-scale maps and charts of the world are prepared by war and navy departments. In a sense the military, naval, and other intelligence and informational services of modern states are research institutions in geography. The history of the geopolitical movement in Germany shows how geographical research can be distorted to serve the ends of a belligerent nationalism.

In this article I shall steer clear of geopolitics and its application to the problems facing the United States and the other United Nations. Suffice it to say that "geopolitics" is not merely another word for "political geography." It is the name not of a science but of "a distorted view of the historical, political, and geographical relations of the world and its parts. It identifies no universal force or process like gravity. It is relative to the state to which it is applied. At least so say its advocates. Its arguments as developed in Germany are only made up to suit the case for German aggression. It contains, therefore, a poisonous self-destroying principle; when inter-

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national interests conflict or overlap *might* alone shall decide the issue. Against 'geopolitical needs' democracy opposes moral rights."[2]

"The geopolitician's inspirations derive from maps, he lives in a world of maps. . . . No one denies the great importance of maps of all kinds . . . they are the indispensable tools for every economist, political scientist, strategist or statesman. Yet . . . the preoccupation with maps"[3] may lead to "hypnotic absorption" and a failure to recognize the vital importance in human affairs of conditions and problems that no man can map. Far more important in the long run than the abstractions of the geopoliticians is the solid, concrete research on specific geographical matters relating to the war that is now being quietly carried forward throughout the country.

During the First World War most of the geographers of the United States made distinctive contributions tc the war effort or to the preparations for peace. The profession, however, was much smaller in those days than it is now, and the scope of the conflict was more restricted. India, South America, Australia, the islands of the Pacific, though occasionally touched by sparks, lay far from the centers of conflagration. How different is the picture today when air power has made the polar wastes, the depths of equatorial jungles and the hearts of deserts potential scenes of combat, when all peoples are directly affected and all the world's material resources are concerned in one way or another. Inevitably the Second World War has extended the search for "facts and figures" to every corner of the earth, has created a devouring need for the services of those competent to supply such information—geographers not least among them.

In the United States there are now about 500 geographers—that is to say, persons who have been trained to carry on original studies of professional quality in the field of geography. At a conservative estimate, about a third of these are doing geographical work for the Government. A geographical friend now so engaged, some of whose illuminating comments I shall later paraphrase in quotation marks, informed me that there were about 160 geographers in Government service in Washington late in the summer, and the number is growing. The programs of research and teaching of most of the remainder have been profoundly altered. What contribution are these geographers making to the war effort? What effects will the experience they are now undergoing have on the future of geography? Though these questions are too large to be answered adequately for many years to come, they suggest some observations that may be of interest not only because of their application to geography but because they are relevant to other fields as well.

The quantity of geographical research in progress in the United States,

[2]Bowman, Isaiah, "Geography vs. Geopolitics," *Geographical Review*, Vol. XXXII, No. 4 (October, 1942), p. 646.
[3]Mattusch, K. R., "Geopolitics — 'Science' of Power Politics," *Amerasia*, July, 1942, p. 241.

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the number of hours devoted to it, must greatly exceed what was normal before the war. The quality, however, is affected by the pressure under which work must be turned out, by psychological factors and by the nature of the information required. Wartime work in government offices is regimented work conducted at the behest of officials. This is true to some degree also of work done outside government agencies in response to public and institutional demands. Wartime research is seldom performed on projects of the scholar's own choosing; sometimes, indeed, the urgency and the value of a project may not be altogether evident. Not every official is all-wise, and occasionally a voluminous report, a complex map, or the teaching of a course may be called for with too little regard for its necessity or the feasibility of its execution. Studies carried through without full conviction of their importance or without confidence in the stability of the facts and reasoning on which they are based lack permanent validity. But, though they may fail to meet the normal tests of scholarship, these, the "rank growths" to which I have referred, are sufficiently sound to be of real value for the moment. My geographical friend compares them to "tough brush, bamboo grass and poplar rather than to genuine trees," and points out that findings must be presented without proof, without the apparatus of footnotes and critiques of the sources on which they are based. On the other hand patriotism combined with a sense of the urgency of the national need provides an incentive to excellence as powerful as enthusiasm for studies close to one's heart's desire. In wartime research, moreover, much more material can be consulted than is possible in normal times, and the work is done by groups rather than by individuals working alone. My colleague believes that "while production is below the level of the best peacetime research, it is distinctly above the lower levels of normal publication."

Few geographers are privileged— few, for that matter, claim to be qualified — to act as policy makers in the war effort. Their function rather is to meet the demands of the policy makers by supplying facts and interpretations of facts. Those who direct the wartime labors of geographers are asking for data and yet more data: depths and widths of rivers, heights of mountain passes, facilities of harbors, locations of munitions plants, dates when rainy seasons begin or snows melt, the output of oil wells. They ask for equally concrete data concerning people: their numbers, their institutions, their standards of living, their morale and factors that may influence it. Often far into the night geographers in government service are digging out such facts, plotting them on maps, compiling them into reports concerning regions upon which as scholars they have specialized and those they have neglected; regions where the war is being fought, into which it may spread and from which it draws the fuel for its fires — the entire world, indeed. To be ready when future calls come for facts

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of a like sort, geographers are also striving to systematize, and facilitate access to, sources of information by taking stock of collections of maps, geographical books and statistics throughout the country and by listing and classifying geographers, travelers and others with firsthand knowledge of different regions of the world.

The war has stimulated rapid advances in surveying and cartography. Maps in hitherto unheard-of numbers are required for the use of ships and of troops on the ground and in the air. Large areas that would probably have remained poorly mapped for decades are being flown over and photographed from the air. Photogrammetrical methods and instruments for the plotting of maps from photographs are being invented and perfected, as are also more ingenious and speedy ways of drawing maps and reproducing them in large quantities. The global extent of the war has made it more necessary than ever before that the world be visualized as a whole. The old, familiar Mercator projection of the schoolbooks, atlases and wall maps is being criticized on every hand because it distorts relative areas and fails woefully to make clear the true spatial relations of large parts of the earth. The distortion is especially great in the higher latitudes, such as those of the United States to Japan, Canada to Norway and Siberia, Australia to South America and Africa. Hence various other recognized projections are coming into their own, and new projections are being devised. There has also arisen a widespread interest in geographical globes. The few competent globe makers in the country have had more orders than they could possibly fill.

Before the war the geographers of the United States enjoyed much freedom. They could spend time on the investigation of matters that attracted them personally — particular regions or special phases of the general field. They could constantly seek to improve methods and to integrate into more highly refined or "processed" forms the scattered, uncorrelated data that constitute the "raw materials" of geography. They could speculate on what geography is, has been and ought to be. They could follow fascinating bypaths where geography overlaps with history, literature and other humanistic studies. This freedom, however, led to a somewhat spotty coverage of the earth's surface; large areas, including parts of the Pacific realm now of critical importance, were almost entirely neglected. It also led occasionally to arid discussions of methodological minutiae. Let us hope, though, that the more original types of study may not suffer too much eclipse because of wartime exigencies.

This hope is expressed not out of any particular concern either for the personal preferences of geographers or for the advancement of geography as an end in itself; upon the conclusion of the war, geographers will return to more congenial pursuits, and the science will move forward strengthened. The point is, rather, that in its developed forms geography has much to contribute toward the winning of

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victory and toward the establishment of an enduring peace.

A great geographer once said that a primary purpose of geographical study is to discover, to disclose and to interpret "significant combinations" both of material things and of intangible conditions that differentiate the various parts of the world. Most geographers would agree to this, however much they might differ as to precisely what things and conditions and what combinations thereof are "significant." Significance is relative. The goal of geography is hardly the discovery of combinations significant in any absolute sense though some have played with that idea. The things and conditions that differentiate the various regions of the world are countless in number and infinitely complex in their interrelationships; the most the geographer can do is to select and put together those that appear to have importance with respect to well-defined human needs. To accomplish this he has at his disposal techniques, especially cartographic techniques, that have been developed over many years. In addition he has, or should have, a distinctive facility of greater value, derived from training and experience, for thinking in terms of the relationships between the world of physical nature and the world of man and for investigating the conditions of these relationships as they exist and change at definite places and over definite areas. It is also of the utmost importance that his thought should be constantly corrected and stimulated by contact with the thought of specialists in other fields than his—that he should not work entirely alone but in collaboration with others.

During recent years the cooperative investigations of geographers and others have contributed to the understanding of and to the forming of governmental policies with regard to such large questions as conservation and the best use of the land, the effects of dry climates on farming and grazing, the reclamation of blighted or retarded areas. A notable example of investigation of this kind is the comprehensive series of studies of the "pioneer belts" of the world initiated by the American Geographical Society some years ago and carried forward with respect to Canada by the Canadian Pioneer Problems Committee. Another is the investigation of areas suitable and possible for settlement conducted by the Walter Hines Page School of International Relations of The Johns Hopkins University under the direction of a distinguished geographer, Isaiah Bowman, President of that University, and under the auspices of the President's Advisory Committee on Political Refugees. This investigation involved field studies in many parts of the world.

Collaborative geographical research both in the office and in the field is no less capable of illuminating major immediate problems of the war. One might mention, for example, the field studies, largely geographical in nature, that are being made by the Department of Agriculture and other agencies of the occurrence and potential development in Latin America of

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war and postwar necessities, such as rubber, quinine and various foodstuffs, whose prewar sources have been cut off. In this connection certain comments by my anonymous colleague are of interest.

"War needs," he writes, "are for applied science, and applied science must be applied to specific regions. Historians, economists and sociologists are being forced to consider the conditions of specific regions. This is directing them to the geographical approach and to geographical techniques and particularly to a greater appreciation of the value of maps for the presentation of factual findings. A major function of the geographers working for the Government, though by no means the only one, is to present these findings of social scientists on maps." Moreover, there are now being developed "genuinely cooperative studies by geographers and social scientists of different fields united in the common interest of a specific region. In several government agencies scholars are grouped not by academic disciplines, but by world regions; group loyalty and group interest is, therefore, based on the region, and the reports prepared are the joint contributions of scholars of different disciplines — not collections of chapters by each, but genuine products of the meeting of minds."

Without doubt, American geographers and cartographers are now rendering valuable services to the nation, and their experience is not without beneficial effects on the advancement of geography. While some of the fruits and flowers that grew in the geographical field in time of peace have been blighted, so have been most of its academic weeds — and it cannot be denied that there were a few. Geography will be all the better because its scholars are now obliged in close collaboration with others to confront the problems of a desperate national emergency, and, too, the vigorous accumulation and organization of data now going on will provide material on which geographical work of a more original kind may be based later.

The problems of reconstruction will be if anything more complex than those of winning the war. Foreseeing these problems certain geographers are already engaged in gathering, and representing on maps, relevant data for use in the peace settlements — data pertaining to such matters as the world distribution of essential raw materials and their accessibility to centers of population by existing and needed transportation routes, as well as the distribution of races, languages, religions, standards of wages and living, the permanency or impermanency of international boundaries and other fundamentals. In this way basic information is being organized for that time when the need will be imperative for all the special techniques, all the creative ingenuity and all the broad, unifying vision that geographical studies can supply. While it may not be for geographers to make the peace, they can help found it firmly upon understanding of the realities of a varied earth.

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Discussion

Problems of World Government

To the Editor:

The thoughts which follow were inspired by Mr. Chafee's article on international utopias which appeared in your summer issue:

Any kind of federation of nations is bound to appear artificial and is open to criticism from every conflicting interest:

(a) Nationalists will protest against any proposal to sacrifice sovereignty by permitting a majority of small nations to overrule great Powers, jealous of their historic traditions and privileges.

(b) Internationalists will object to limitations imposed on the central government, especially if they result in its domination by the great Powers.

(c) Conservatives will resent any constitutional change, preferring to bear the ills they have than fly to others they know not of.

(d) Radicals will criticize any provisional or incomplete scheme, as mere tinkering, an illogical compromise that satisfies nobody.

The decisive answer to these objections is that some kind of federation or confederation is essential: the alternative of a congeries of disparate and self-sufficient units is unthinkable. If the nations of the world are to be saved from relapsing into chaos they must learn to work together, to pool their resources, to share their discoveries. No nation, not even the United States of America, nor the British Commonwealth of Nations, nor the U. S. S. R. can afford to live to itself alone.

But all schemes of federation or alliance so far put forward are open to grave objection. Obvious difficulties which arise are these:

(a) Among the great Powers only the United States of America, the British Commonwealth of Nations and perhaps France can be called democratic, i.e., their governments are elected by popular vote and minority opinion is respected. The government of the U. S. S. R., though it may depend on almost unanimous support, has a different political ideal, and China has not yet evolved a constitution.

(b) It will be necessary to watch, to restrict and to police the Central Powers, Germany, Austria, Rumania and perhaps Japan, for some years after the armistice. If this is to be done jointly by the anti-Axis states the proposed federal constitution must make special provision for it.

(c) The League of Nations was supported financially by subventions from its members which sometimes fell into arrears. This meant that most of its financial support came from Britain and France, which thus came to be regarded as having a controlling interest in its proceedings. The problem of finance is difficult: possibly a new federal government might be given power to impose a tax on its members — just as County Councils and other local government bodies in England send precepts to minor rating authorities requiring them to levy a tax for the amount needed.

(d) The federal government may be fairly representative, but it will have to depend on indirect election — or rather nomination— by the constituent states. A criticism of the League of Nations was that Britain was overrepresented because each Dominion (except Newfoundland) was counted as a member State; yet it would have seemed absurd to give a vote to Nicaragua and none to Canada or Australia.

(e) In so-called democratic states not enough intelligent interest is taken in elections to representative assemblies. A nominated body such as the League of Nations Assembly aroused even less interest and hardly any enthusiasm. If a new federal assembly is to be created it must somehow contrive to stir the imagination of the peoples concerned.

It certainly seems that, as Professor Chafee points out, the old League of Nations, with such modifications as experience has suggested, is the most promising expedient for helping to solve postwar international problems. But two caveats may be entered:

(a) One cannot wait until a perfect scheme is devised or until all countries are convinced of the need for an international organization. The best is enemy of the good and delay may be fatal. Men of good will in every land must combine to create a practical cooperative assembly

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that will set to work various agencies designed to restore civilization and heal the wounds of war. Provision should be made for such extension or amendment of these agencies as may be found advisable when economic stability and a measure of prosperity have been restored.

(b) All the resources of science, of education, of religion, must be enlisted on the side of this international order and the federal assembly which is its instrument. It is unfair to create a representative assembly and then to give it grudging support, to sneer at its activities, to minimize its successes, to ignore it or regard it as a mere political ramp. Yet such was the treatment accorded by many influential persons to the League of Nations in the years 1920 to 1939. These captious critics would have done less harm if public opinion had been better informed and more intelligent. When education is freer, wider, more tolerant and more humane, one may hope that civilization may be saved.

J. Gordon Stanier
Winchester, England

A Salute from the Navy

To the Editor:

It was strange to find a copy of your quarterly beneath the stacks of comic books and Nautical Almanacs that always infest a naval ship. It was not strange that that one copy has afforded me considerable pleasure and mental stimulation. If you could understand the contrast between your type of literature and the usual run of reading matter aboard a vessel like this, you could appreciate "my" discovery even more intensely.

Carter Barber,
At Sea, North Pacific Ocean

German Universities Centers of Reaction

To the Editor:

In the article "Can We Educate for Democracy?" which appeared in your Summer issue the author states that most of the political organizations in the United States are in the hands of people without college education. But he concludes that even high educational standards are no safeguard against dictature and points as an example to the lack of opposition against Nazism on the part of the German universities.

He is right! But how can you expect opposition against dictature from its very leaders? The universities had been hotbeds of fascism since the foundation of the Weimar Republic. The students who had fought in the World War and who were unable to adjust themselves to civilian life banded together with officers of the demobilized Imperial Army in the freebooting corps which ravaged the western parts of Russia. After the consolidation of the Baltic Republics the Free Corps started at once to fight the German Republic. The *Freicorps Luetzow*, the Organization Consul, the *Orgesch*, to name only a few of these organizations, perpetrated the most horrible political murders in German history. When political life became more settled these student-soldiers flocked back to the universities in order to complete their studies.

Two questions arise: how did the students behave then and how did the teachers react? Of course the young men did not change. The students participated in any reactionary movement where a "goon squad" was needed. They started anti-Semitic and antidemocratic brawls and fist fights within the very universities.

And the professors? They had spent all their lives in a militaristic autocracy. They disliked the Republic, despised the members of the democratic movements and approved of the violent outbursts of their flock. The state had no power to do anything in this matter. State employees could not be dismissed — a professor was a state employee in Germany — and the rulers of the new Republic could not change the old civil service laws. The universities were autonomous in disciplinary matters and in questions of employment. The government paid for higher education but could not influence it. This state of affairs may seem queer to Americans but it was the result of a historical process of many centuries.

When the students graduated they became judges (state employees in Germany), doctors and teachers. Some of them remained members of the illegal militaristic organizations, others participated in the political life of the nation. life is a tradition in Europe. The liberal move-

The participation of the learned in political ments of the year 1848 had been led everywhere by students and the students at that time became leaders of the democratic parties when they left the universities. But long before the advent of

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the National Socialists, the doctrines of reactionary though not of such violent movements had been disseminated in the universities.

After the World War a great many German college graduates were unable to find employment. These intellectuals drifted into the political movements of the extreme Right or Left. Some of them joined the Communists but the majority preferred rightism. They were the yeast in the reactionary organizations; they were the newspapermen, theoreticians and propagandists of the Nazi movement. Goebbels, Ley, Frick, Franck are the most successful members of this class.

Since the university teachers and the intellectuals were almost solidly behind the National Socialist Party, no opposition on their part against rising fascism could be expected. The teacher taught violence, the student executed it and the judge dismissed the case. This was the situation amongst the learned in Germany.

ALEXANDER BACZEWSKI,
New York City

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About Our Authors

Double quotation marks usually indicate passages taken directly from autobiographical letters requested from the author.

RUTH BENEDICT is associate professor (Columbia University) of one of the most catholic of subjects, anthropology. Since 1923 she has been editor of the *Journal of American Folklore* and during 1926-28 was president of the American Ethnological Society. Poetry, experiments on rats, abstract and realistic art, educational theories, all fall within her range of interests . . . . Recently she remarked: "Being an anthropologist in wartime seems to have made me a jack-of-all-trades. Anyway I'm working on national committees on anything from food habits to race, from the legal status of women to postwar worlds."

ERNST CASSIRER, German philosopher, is visiting professor of philosophy at Yale. At one time he was Privat-Dozent, Berlin University; for some time he was Rector of Hamburg University; during 1933 he was visiting lecturer at All Souls College, Oxford. Neither this brief summary nor a full list of his innumerable books conveys the stature of the man. We quote, therefore, from the Preface to the volume, *Philosophy and History*, "Essays presented to Ernst Cassirer in 1936 on the occasion of his 60th birthday": "Philosophy and history are the two main activities to which Professor Cassirer has devoted his life. In his works the union of these activities is achieved, not merely postulated as an ideal; and this union is to be found alike when, as a historian of philosophy, he is retracing the development of the theory of knowledge and when, as a creative and systematic thinker, he offers us his doctrine of civilization in *The Philosophy of Symbolic Forms*."

HAROLD NICOLSON has an eminent place along the ridge of the prism he uses as his illustrative figure. For years after his entry into the British diplomatic service in 1909 he served his government in such various places as Madrid, Constantinople, Teheran, Berlin. He was a member of the British Delegation to the Peace Conference in 1919; was successively Second Secretary and First Secretary, the Diplomatic Service, a member of the staff of the League of Nations and Counsellor to the Foreign Office in London. For a time he was on the editorial staff of the *Evening Standard* and in 1940-41 was Parliamentary Secretary to the Ministry of Information. . . .

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Over the past nineteen years he has written as many books, some of them essays in literary criticism, some discussions of public men and public affairs.—*Paul Verlaine, Tennyson, Byron, the Last Journey, Development of English Biography, Peacemaking, Curzon: The Last Phase, Dwight Morrow, Diplomacy.* His *Why Britain is at War* was brought out in 1939.

AGNES YARNALL tells us: "I made the usual mistake (committed by most poets) of publishing a book, called *Pandora and Other Poems,* when I was twenty-one—and in the process of 'living that down' I have written steadily ever since, with very little thought of publication."

At the moment ALBERT VITON is doing war work in Washington. But if he decides that some other place offers better possibilities for knowing what is happening he will probably be there when he next contributes to THE AMERICAN SCHOLAR (earlier articles have appeared in Vol. 8, No. 2 and Vol. 10, No. 1). A few years ago his work for the Lee Syndicate in Germany was cut short by the Gestapo; a few years after his escape he was back in Europe — in Italy for three months, in the Near East for three years, and back in Europe for three months. During that period *Asia* relied almost solely upon him for its discussions of the Near East and the *Nation, Great Britain and the East,* the *Christian Century* and various other periodicals published his material (as they have since continued to do). After his return to this country there was an academic lull while he taught in the department of political science at Northwestern University and completed his *Great Britain.*

ROY K. MARSHALL, "member or fellow of all the usual societies" (including Sigma Xi and the American, Canadian and British associations for astronomers) has been Assistant Director of the Fels Planetarium of the Franklin Institute, Pennsylvania, and Astronomer in the Cook Observatory of the University of Pennsylvania for the past two. Fortunately for the inquiring layman, he has been "for more than ten years addicted to public lecturing in astronomy." Along with his public lectures he has done a sizable volume of writing and radio work — "always, quite naturally, with astronomy as the topic." He says in this connection: "There are so many astronomers who are afraid of the subject and so few to release them from that fear that some of us have to take over the job in order to ensure sympathetic support to these inhibited scientists in the coming generations. . . . I love cats and listening to the radio. I have five radios, one a recorder with which I have made a collection of more than 1000 records."

Until he joined the Marines a short time ago DONALD A. STAUFFER was associate professor of English at Princeton. While he was a Rhodes Scholar (Oxford) he edited the *Oxford Outlook,* an undergraduate magazine that published, while he was on its staff, work by W. H. Auden, Louis MacNeice, Day Lewis and others. In 1930 the Harvard Press brought out his *English Biography Before 1700* and in 1941 *The Art of Biography in Eighteenth Century England.* He remarks: "For the past few months I have been engaged on a book that tries to get into shape, for my own satisfaction at least, the principles of poetry. . . . I like antinomies (Yeats is my favorite modern poet) and like to speculate on the relations between conviction and tolerance, or between a free-intellectual and a controlled-economic society. Critically, in consequence, my sympathies are with the relativists and it is one of my blind spots that I find it difficult to conceive how any human being can hold an absolute position. . . . At the time of our session with the sonnet, Daniel Aaron was a member of the department of English at Smith, Reuben Brower was assistant professor of Greek and English at Amherst and John Crowe Ransom was Carnegie Professor of Poetry at Kenyon and editor of the *Kenyon Review.* He has written several books, among them *The World's Body* and *The New Criticism.* Elizabeth Drew, lecturing in America at the time, is the author of *The Enjoyment of Poetry, Directions in Modern Poetry* and so on."

DAVID T. POTTINGER has resigned from the Harvard University Press after 26 years of service. He has contributed to *The Dolphin,* the *Gutenberg Jahrbuch* and similar publications; he has lectured extensively on typography; he is the author of the recent book *Printers and Printing;* and he has designed a number of books included in the "Fifty Books of the Year" exhibitions. For the past two years he has devoted his spare time to research in the industrial history of printing in the 18th century, for which Harvard awarded him a grant from the Milton Fund. Although he insists he is a publisher rather than a printer he has been president of the Society of Printers (Boston) and is an honorary vice-president of the American Institute of Graphic Arts. For recreation he most enjoys good talk

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but he likes to putter in the garden, tramp the hills of New Hampshire and delve into the antiquities of Cambridge and New England.

J. FRED RIPPY is professor of history at the University of Chicago. He became interested in Latin America through his contact with Mexicans in Texas and "as a result of excitement along the border after the downfall of Porfirio Díaz." He is now busy with research on the migration of capital, technology and business methods to Latin America. He believes that memories of "good times" together, of problems tackled and solved through mutual effort, could be wrought into a bulwark of Pan-American solidarity — and that we shall not have genuine enthusiasm for our neighbors until we have learned much more about our contribution to their economic and cultural developments. He feels that "a thrilling pioneering theme runs through much of our relations with the region." He is convinced, finally, that "most of our present enthusiasm for things Latin American is no more than skin deep. Foundations controlling millions in research funds have not been aroused. It is still easier to obtain money to investigate Ceylon, Siam and the Fiji Islands than to wangle an appropriation for the study of the people next door. During six years of excitement about the fascist threat to Latin America the research councils have not even learned Who's Who in Latin-American affairs in their own country — to say nothing of their ignorance of Latin Americans with a solid grasp of their own history and culture. In this field, too, the story thus far is 'too little and too late.' ". . . He is the author, alone or in collaboration, of a number of books in his field—Latin America and its relationships with the rest of the world.

WALTER ABELL, writer and lecturer on the history and criticism of art, has been professor of art at Acadia University in Nova Scotia for the past several years. In his interests he holds practically dual citizenship, for although he is an American by birth and upbringing he has been closely associated with Canadian art during the past few years — as lecturer over the national network of the Canadian Broadcasting Corporation and as editor of *Maritime Art*, "a magazine launched as a regional art journal for the three 'Maritime' provinces of Canada and now expanding to become Canada's first national art magazine." . . . His *Representation and Form*, "a study of critical problems in the field of modern art, especially the problem of the relation of subject-matter to design and its bearing on modern movements such as cubism and other forms of abstraction," was published a few years ago.

DANIEL GIBSON writes: "From 1931 to 1940 I had charge of college English at the Cincinnati Conservatory of Music. During this time I acquired a Ph.D. from the University of Cincinnati, more musical knowledge from my students than I administered to them of literary information, and gained an aversion to professional Wagnerian fans. Since 1940 I have been a member of the English department of the Citadel, Charleston, South Carolina. . . . I have interested myself particularly in the satiric literature of the Restoration period and early 18th century but my literary tastes are pretty inclusive. Chiefly I enjoy teaching, examining the rationality of poetry and people, and fishing. Of necessity I do more of the first two than of the last."

THOMAS SANCTON, a young Southerner who has lived in the Northeast for the past three years, has for some time been "preparing, from bibliography and from observation, a book on the need for more openminded attitudes in the South and particularly among young Southerners whose minds have not yet been closed by sentiment and prejudice." . . . After his graduation from Tulane University he worked on the New Orleans *Times-Picayune* and was a reporter for the Associated Press. He then went to Mississippi to cover the Mississippi legislature for the AP and a few months later to New York as an editor for the AP. As a Nieman Fellow at Harvard in 1941-42 he devoted most of his time to a study of Negro anthropology and race history in America. Early in 1942 he left Harvard to become managing editor of the *New Republic*.

For more complete information about JOHN K. WRIGHT, Special Adviser to THE AMERICAN SCHOLAR in geography, readers are urged to combine the account in *Who's Who* with the *New Yorker's* "Profile" for July 26, 1941. He has been enamoured of maps since he was nine. He was for many years librarian of the American Geographical Society and since 1938 has been its director. With infinite pleasure he reads and broods over a map as others a book or a musical score. He is, as all who have had occasion to turn to him know, invariably ready to be of aid to those who need his expert professional advice.

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